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JOHN HUNTER.

"Some Physiologists will have it that the stomach is a mill; others that it is a fermenting vat; others, again, that it is a stew-pan; but in my view of the matter, it is neither a mill, a fermenting vat, nor a stew-pan—but a Stomach, gentlemen, a Stomach!"—

Manuscript Note from Hunter's Lectures given by Dr. Paris in his work on "Diet."

HABIT AND HEALTH

A BOOK OF

Golden Hints for Middle Age

DERIVED FROM THE WORKS OF EMINENT MEDICAL MEN, AND EDITED BY

GUY BEDDOES

WITH ESPECIAL REFERENCE TO AILMENTS BESETTING PROFESSIONAL AND BUSINESS MEN AT THE PRESENT DAY

"Wisdom is the principal thing; therefore get Wisdom."—PROVERBS iv. 7.

LONDON
SWAN SONNENSCHEIN & CO.
PATERNOSTER SQUARE
1890

JOHN HUNTER'S CHARACTERISTICS.

"His chief love was for the charms of truth that lie hidden beneath the appearances, the veils of nature; and his love was enhanced when search revealed the utility of all he saw—the perfection of the adjustment of everything to its use; the evidence of purpose fulfilled in every change; the evidence of grandeur in a world of infinitely various forms held steadfast by few laws."

Sir James Paget's Hunterian Oration.

"Hunter was certainly no specialist."

Sir William Gull's Hunterian Oration.

THE TRUTH ABOUT MENTAL LABOUR.

"Let me impress this truth upon you, that it is not pure brain work, but brain excitement or brain distress, that eventuates in brain degeneration or disease. Calm, vigorous, severe mental labour, may be far pursued without risk or detriment; but whenever an element of feverish anxiety, wearing responsibility or vexing chagrin is introduced, then come danger and damage."

Dr. Crichton Browne, of the Wakefield Asylum.

*** *The Editor has to thank the various distinguished Medical Men and Laymen who have accorded him their kind permission to make Extracts from their Writings.*

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INTRODUCTION.

It has lately been the task of the Editor of these pages to make a survey, for specific purposes, of the Literature of the Stomach, the Brain and the Nerves.

In the course of this task he was struck by the number of well-put passages in which the laws of our system, and the results of experience concerning the functions of the body, and particularly that of digestion, are set down by careful observers, in a manner which merits the attention of every one who would endeavour to avoid doing mischief to his frame.

In our English Society the ignorance of physiology, even amongst men of high general culture, is very striking. Outside the bounds of the Medical Profession, has one man in a thousand a rational notion of the actual processes of his digestion? It is to be feared not, or there would not be so many serious mistakes about it.

In the journey of life there comes the time to many hard workers when the Conservation

of Energy becomes all-important. We cannot all become very rich, but the acquirement of a family provision, a modest competency, is the natural desire of every man, and an object the attainment of which is within the reach of most. There often comes, however, a terrible moment in middle life, when a sudden "break-down" opens a startling prospect. This frequently happens just at the time when saving begins to be practicable. If only the energy would last for something like the natural term, and until children grew old enough, then the family would be safe and have enough. But——NOW——if serious and permanent disease disable the head, *poverty stares them in the face!*

When such a result threatens or comes about, men must look to their ways. If they are naturally weak, they must buttress the tender frame; if they are naturally strong, and have either abused, or in their eagerness over-strained, the powerful body or nimble mind, they must correct their habits. Above all things, those who have rounded the hill-top of life must drive slow and look well to both sides of the road.

Without attempting any such rashness as notions about the treatment of severe or acute diseases which, when they do come, task the knowledge and experience of even the skilful medical man, this little book contains hints which may be of the greatest possible use to people in the thick of the business of life. It may help them to see in what direction they are erring, what important issues underlie their daily habits, and how they may, by judicious correction of these, withdraw in time from the borderland of grave disorder.

Our modern habits need careful looking to. The race for wealth has put on a pressure which robs us of many of the pure and simple pleasures of life. Professional and Business Men see too little of their families and are too often waiting and looking forward to a time of enjoyment which never comes. They forget that the happiness of life must be snatched by the wayside. There is a well-hammered observation of the late Sir George Cornewall Lewis to the effect that "life would be tolerable but for its pleasures." To many this has seemed a paradox. But even those

persons should remember that a paradox, as De Quincey has pointed out "is only a veiled truth." If we forego the wayside happiness, and reserve ourselves for ambitious and expensive pleasures, we may be sure that we shall after all find ourselves asking about these: "Is the play worth the candle?"

Without entering upon detailed discussion concerning fashions of the hour, reference may be made to one which at present is, perhaps, being pushed to excess;—that is, the habit of living at a great distance from business. The strain upon the bread-winner caused by this is often a matter which should receive the most earnest family consideration. The noise, the jar, the effort and weariness incident to such an amount of travelling as is daily gone through in this manner, takes a great deal out of a man's life. If one can "knock off," say, on Wednesday and Saturday, or even on the latter day, it is all very well, but six days of it running make a serious inroad on the eyes, nerves and brain of many an anxious, hard-working father.

By thus bringing together in a handy form the results of many able men's experience,

and drawing attention to simple but important things wofully neglected, the Editor hopes he may be in some degree instrumental in sparing his fellows needless suffering, and perhaps be in some cases lengthening valuable lives. He aims at inculcating the philosophy of common sense. He seeks to preach the "gospel of serenity," and to make plain the vice and impolicy of allowing oneself to be driven into hurry and worry. An assemblage of opinion such as is here gathered together from so many sources—so unanimous as to certain great physical truths—should bear upon most people with impressive force.

Perseverance is a good thing, but judgment is a better. Some men are too apt to forget, amidst the changes and chances of this mortal life, that instead of dragging on at an unsuccessful business or a mistaken profession, it would be better to find a fresh opening for their energies. The world is a biggish place, it is full of *people who want*, and with health there is much to be done.

Let us all realise the fact, that, in what may be called *the warning illnesses of life*, we are shown some fault that needs correction, some

overload which we must endeavour to lighten or throw off at whatever cost. How many careers would be altered and lives lengthened if people would keep in mind the familiar fact that "it is worry that kills."

That famous practitioner, the late Sir John Forbes, M.D., D.C.L., left as a Legacy to his Professional Brethren a little book "On Nature and Art in the Cure of Disease." Its prime object is to show that the true Office of the Medical Attendant is *to see that Nature is not thwarted*. In this admirable book the general position of the patient is thus happily put in a passage quoted farther on:

"The extreme ignorance of the public generally in these matters, not excepting even the literary and scientific classes, is a fact admitted by all who are capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind, both public and private. The falsest and most absurd notions are entertained respecting the whole subject of the morbid conditions of the animal economy, and respecting the means deemed capable of modifying and removing them.

"If this ignorance of a science and art of which there exist established professors and practitioners, were strictly confined in its effects to the individual minds lodging it, and were, like our ignorance in regard to many of the other practical arts of life, simply passive, there might be a question whether it were of much or of any importance that it should be removed. What greater necessity, it may be said, is there for men in general being enlightened in the science and art of the physician, than in the science and art of the shoemaker and tailor, of the coach-builder, saddler, or of any of the other handicrafts subservient to his comfort and happiness?

"The distinction between these arts and the medical art in their relations with the public is this: That whereas in the case of the former we are contented to let the artists take their own way without any interference on our part, in the latter (medicine) we are perpetually interfering actually or virtually, directly or indirectly, so that it becomes a matter of vital importance that the interference, if it does take place, should be guided by knowledge—not by ignorance; or what

would be the preferable result of knowledge, that the interference should be altogether foregone.

"The injurious interference here referred to as the result of ignorance of the nature of diseases, and of the medical art, is not an active and direct interference with the proceedings of the physician, under the pretence of knowledge of what is for the patient's good; as such interference is only had recourse to in rare instances and by very unreasonable persons, and would only be tolerated by those who are unworthy of the medical office. What is here complained of and deprecated is the indirect influence exercised over the conduct and practice of the physician, through the anxieties, wishes, hopes, fears, or other natural emotions of the patient or his friends, which a truer knowledge would often enable them to suppress or keep within more legitimate bounds. It is often impossible for the most scientific and honest physician to resist the influence of such causes, though he may know that some of his proceedings, the result of this influence, are hardly such as can be justified either by

considerations of science or of the more rigid rules of professional propriety.

"I am aware that the greatest enlightenment of the public mind could not altogether destroy this class of influences, but it would undoubtedly lessen their number and force.

* * * * *

"It cannot be doubted that juster views of medical science and of medical art, if once prevalent among the lay public who are well informed, will, like all other knowledge, eventually descend to those who are not so; and then the progress of rational Medicine will be facilitated, and the hands of those professors strengthened who have the courage to advocate and practice their art conscientiously, however opposed to vulgar prepossessions and prejudices."

In the words of an acute West-end practitioner of the day: "Medicine has forgotten a good deal as well as learnt much this century." The wise advice of such men as Hunter, Wilson Philip, Paris, Abernethy, Johnson, and others should not be smothered under the writings of more recent days.

By placing in juxtaposition, as is here done,

the rules of the distinguished but eccentric physiologist, Abernethy, with the comments of Dr. Johnson, the attentive reader will be able to mark the strong and the weak points of the famous "system."

The comfort that is to be derived from a careful perusal of the following pages is the knowledge of how much lies within our own power in the maintenance of Health — how much also for mending it when accident or error has impaired the healthy equilibrium.

GOLDEN HINTS FOR MIDDLE AGE.

A FAMOUS PRACTITIONER'S OPINION.

"If digestion go on more slowly and more imperfectly than in the healthy state, an important rule will be, not to take in additional food until time has been given for the solution of the former. If the healthy period be four or five hours, the dyspeptic should probably allow six or seven. The injurious infringement of this rule by a breakfast, a meat lunch, and a dinner, all within the space of seven or eight hours, is too obvious to require a single observation . . . .

"I believe that every stomach, not actually impaired by organic disease, will perform its functions if it receive reasonable attention. And when we consider the manner in which diet is generally conducted, both in regard to quantity, and to the variety of articles of food and drink which are mixed up into one

heterogeneous mass, instead of being astonished at the prevalence of indigestion, our wonder must rather be, that in such circumstances, any stomach is capable of digesting at all.

"In the regulation of diet, much certainly is to be done in dyspeptic cases, by attention to the quality of the articles that are taken, but I am satisfied that much more depends upon the quantity, and I am even disposed to say that the dyspeptic might be almost independent of any attention to the quality of his diet, if he rigidly observed the necessary restrictions in regard to quantity. It is often indeed remarkable, how articles which cannot be borne as part of a mixed diet, agree perfectly when taken alone; how a person, for example, who fancies that milk disagrees with him, will enjoy sound digestion upon a milk diet; and how another who cannot taste vegetables without being tormented with acidity, will be entirely free from acidity on a vegetable diet."

Dr. John Abercrombie's "Pathological and Practical Researches on Diseases of the Stomach, the Intestinal Canal, the Liver, and other Viscera of the Abdomen."

WANT OF TRUST IN NATURE—OVER-TRUST IN ART.

"In a very early stage of my medical experience, I became impressed with the conviction that the most fruitful source of false views, both in pathology and practice, prevalent in the profession, originated in ignorance of the natural laws governing diseases—in other words, in ignorance of the *Natural History of Diseases*, and all my subsequent observation, through a long series of years, has only tended to strengthen the impression.

"It is true that, since the period referred to, great advances have been made in some important points of the history of diseases, as in their structural pathology, or morbid anatomy, as well as in many of their physiological relations, so that it must be admitted that well-informed practitioners of the present day have a much deeper insight into the exact character of many of the diseases treated by them than was possessed by their predecessors. It is very remarkable, however, that in regard to one most important part of the history of

diseases, that, namely, of their natural course and event, infinitely less progress has been made; insomuch that it may now be affirmed that practitioners of the present day are, speaking generally, almost as uninformed as were their predecessors fifty or a hundred years back.

"Such has ever been the want of trust in Nature and the over-trust in Art prevalent among the members of the medical profession, that the field of natural observation has been, to a great extent, hidden from them; hidden either actually from their eyes, or virtually from their apprehension. The constant interference of Art, in the form of medical treatment, with the normal processes of disease, has not only had the frequent effect of distorting them in reality, but, even when it failed to do so, has created the belief that *it did so*, leading in either case to an inference equally wrong; the false picture, in the one instance, being supposed to be true, the true picture in the other being supposed to be false.

"With this impression on their minds, it was scarcely possible for practitioners not to form

a false estimate alike of the power of Nature and of the power of Art, in modifying and curing diseases, underrating the former in the same proportion as they exaggerated the latter. And the consequence has been that diseases have been treated mainly as if Nature had little or nothing to do in their cure, and Art almost everything. A principle so false, adopted as the ground of action, could not fail to be the source of the gravest doctrinal errors, with practical results of the most deplorable character.

"My great object is to endeavour to expose these misconceptions and misappreciations, and to substitute in their place juster views of the animal economy in disease, and juster views of Art's relation towards it. If I succeed in effecting this object, even in a slight degree, so as to impress the minds of some of the younger and less prejudiced members of the profession with the truth and importance of the principles advocated, I can entertain no doubt that a great good will thereby have been gained for practical medicine.

"The first and most essential step to im-

provement in any department of human action, or in any practical art, is the exposure of fundamental errors. And if, in such cases, the true does not immediately take the place of the false, it is sure to do so eventually, even though no indication of the fitting substitute accompany the exploded error. In the present case, however, it is believed that the mere exhibition of the evil must lead to its abandonment, and its abandonment be followed, as a matter of course, by the substitution of something better.

"At any rate, and at all events, it is the duty of an honest mind, on attaining conviction of an error, to abandon and to expose it, even although the truth that is sure to succeed it may, as yet, be seen only darkly, or be entirely hidden.

"II. Besides the object principally contemplated in the present undertaking, that, namely, of conveying to the junior members of the medical profession generally juster views of the relations of Nature and Art to diseases, another object, only inferior to this in practical importance, has been constantly present to the writer's mind in carrying it

out. This has been to prepare a work which, while fulfilling its strictly professional aim, should also be calculated to convey to educated and well-instructed persons of all classes such information respecting the real nature of diseases, and the true character and powers of the medical art, as they would be capable of comprehending and appreciating.

"The extreme ignorance of the public generally in these matters, not excepting even the literary and scientific classes, is a fact admitted by all who are capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind, both public and private. The falsest and most absurd notions are entertained respecting the whole subject of the morbid conditions of the animal economy, and respecting the means deemed capable of modifying and removing them.

"If this ignorance of a science and art, of which there exist established professors and practitioners, were strictly confined in its effects to the individual minds lodging it, and were, like our ignorance in regard to many of the other practical arts of life, simply passive,

there might be a question whether it were of much or of any importance that it should be removed. What greater necessity, it may be said, is there for men in general being enlightened in the science and art of the physician, than in the science and art of the shoemaker and tailor, of the coach-builder, saddler, or any of the other handicrafts subservient to his comfort and happiness?

"The distinction between these arts and the medical art in their relations with the public is this; that whereas, in the case of the former, we are contented to let the artists take their own way without any interference on our part, in the latter (Medicine) we are perpetually interfering, actually or virtually, directly or indirectly, so that it becomes a matter of vital importance that the interference, if it does take place, should be guided by knowledge, not by ignorance, or, what would be the preferable result of knowledge, that the interference should be altogether foregone.

"The injurious interference here chiefly referred to as the result of ignorance of the nature of diseases, and of the medical art, is

not an active and direct interference with the proceedings of the physician, under the pretence of knowledge of what is for the patient's good, as such interference is only had recourse to in rare instances, and by very unreasonable persons, and would only be tolerated by those who are unworthy of the medical office. What is here complained of and deprecated is the indirect influence often exercised over the conduct and practice of the physician, through the anxieties, wishes, hopes, fears, or other natural emotions of the patient or his friends, which a truer knowledge would often enable them to suppress or keep within more legitimate bounds. It is often impossible for the most scientific and honest physician to resist the influence of such causes, though he may know that some of his proceedings, the result of this influence, are hardly such as can be justified either by considerations of science or by the more rigid rules of professional propriety.

"I am aware that the greatest enlightenment of the public mind could not altogether destroy this class of influences, but it would undoubtedly lessen their number and force.

"The following are a few of the many ways in which the ignorance of the public, in regard to several parts of medicine which they are competent to understand, influences injuriously the conduct of physicians :—

1. Ignorance of the natural course and progress of diseases which are essentially slow and not to be altered by any artificial means, often leads the friends of the patient to be urgent with the medical attendant to employ more powerful measures, or at least to change the means used, to give more frequent or more powerful doses, &c., &c.

"2. Ignorance of the power of Nature to cure diseases, and an undue estimate of the power of medicines to do so, sometimes almost compel practitioners to prescribe remedies when they are either useless or injurious.

"3. The same ignorance not seldom occasions dissatisfaction with, and loss of confidence in, those practitioners who, from conscientious motives and on the justest grounds of art, refrain from having recourse to measures of undue activity, or from prescribing medicines unnecessarily; and leads to the countenance and employment of men who have

obtained the reputation of greater activity and boldness through their very ignorance of the true character and requirements of their art.

"4. It is the same state of mind that leads the public generally to give ear to the most ridiculous promises of charlatans; also to run after the professors and practisers of doctrines utterly absurd and useless, as in the instance of Homœopathy and Mesmerism, or dangerous, except in the proper cases, as in the instance of Hydropathy.

"5. Finally, it is the same ignorance of Nature and her proceedings that often forces medical men to multiply their visits and their prescriptions, to an extent not simply unnecessary, but really injurious to the patient, as could be easily shown.

"If for reasons of this kind I have, in framing my work, endeavoured to make it intelligible to the lay as to the medical reader, I hope it will be found that I have not, in any degree, departed from the dignity of the professional style of composition, to adopt one suited to the level of the ignorant. I have written only for those who, from their education, ought to be capable of under-

standing the subjects of ordinary science, when treated simply and with as little technicality as possible. These happily now constitute a large class, and are spread so widely through every rank of society, as to enable them by their expressed opinions, and still more by their observed practice, to influence the public mind generally.

"It cannot be doubted that juster views of the nature of medical science and of medical art, if once prevalent among the lay public who are well informed, will, like all other knowledge, eventually descend to those who are not so; and thus the progress of rational Medicine will be facilitated, and the hands of those professors strengthened who have the courage to advocate and practise their art conscientiously, however opposed to vulgar prepossessions and prejudices.

"When laid open in its native truth and simplicity Medicine will be found, like other arts and sciences, to possess nothing that is very mysterious or difficult of comprehension, nor anything that should prevent its principles, at least, from becoming one of the subjects of ordinary study with men who

have received such an education as enables them, as amateurs, to derive profit and enjoyment from analogous studies, such as chemistry, physics, geology, and natural history in all its branches. To such men anatomy and physiology, and the principles of medical science and of the medical art, will be found to yield instruction and amusement of the highest and best kind, to say nothing of the great advantage such knowledge must be to themselves and friends, not only in regard to the preservation of their health, but in regard also to their conduct when afflicted with disease.

"Even a moderate amount of knowledge of the general nature of diseases, and of the mode of operation and powers of the medical art, will make a man a better patient; make him more content with the treatment prescribed, be it energetic or inert; and make him repose greater confidence in his physician."

"*Of Nature and Art in the Cure of Disease.*" *By Sir John Forbes, M.D., D.C.L., F.R.S.*

[Of this distinguished medical man the *Times*, August 16th, 1884, remarked: "He conducted the *British and Foreign Medical Review* with transcendent and scholarly ability."]

ON CORRECT NOTIONS OF MEDICAL TERMS.

"The terms 'functional,' and 'structural' or 'organic' are so frequently employed in connection with disease that it is absolutely necessary that we should arrive at some definite idea as to what we mean by them. We will not attempt any formal definition, but will endeavour to convey our meaning by one or two simple illustrations. In ulcer of the stomach, and in cancer of the stomach, a certain change takes place in the organ in question, which is at once recognised. There is something there which we can see and which we can feel. This is something tangible, something having distinct physical properties, something we can point to and say, 'This is the cause of death'. Now, this is what we call organic disease. But, on the other hand, a man may have suffered for many years from indigestion and marked derangement of the stomach, and yet after death the most practised anatomist, with all the means and ap-

pliances of modern science at his command, may fail to discover any change to account for them. This is what we call functional disease. To employ a very rough simile, we may say that, in the one case, our engine is rusty and won't work, and, in the other, the piston is broken. As a rule, an organic disease is of more importance, and is more likely to interfere with the duration of life than a purely functional one, but it is not always so. It may be more trouble to take the whole of an apparatus to pieces and clean it than simply to restore one part that happens to have suffered.

"Then, again, we speak of 'general' or 'constitutional,' and 'local' disease, but this is not a strictly accurate division. For example we know that pneumonia is inflammation of the lungs, but it is absurd to call this a purely local disease. Look at your patient; his face is flushed, his tongue is furred, his skin is hot, his pulse is quick, and, in fact, he is ill all over. It is not only the lung that is at fault, but the whole body is suffering. You must treat the man and not the lung. Doctors too often forget that they have to treat the

patient, and not the disease. Now, take the case of gout. No one supposes for a moment that this is local disease. No one would maintain that if we were to cut off the patient's big toe we should relieve him of his pain, or cure him of his malady. And so it is with many complaints that are supposed to be local. The local signs or symptoms are simply a manifestation of a general constitutional disturbance. The whole brunt of the attack, it is true, often falls on one particular part, but if that part were not there it would assuredly display itself in some other region.

"One of the greatest advances that practical medicine has made during the last quarter of a century is the recognition of the fact that you cannot treat a local disease without reference to the constitution of the patient. For example, in bronchitis in a child, both the prognosis and treatment would be greatly modified by the knowledge that the little one came of a consumptive stock, or was the subject of rickets. Again, in Bright's disease our opinion would be influenced if we learnt that the patient had suffered from gout or syphilis. So in regard to many brain diseases,

for the successful treatment of which a knowledge of the constitution is essential.

"Of constitutional diseases we recognise the fact that some make their entrance into the system from without, as, for example, scarlet fever, measles, and chicken-pox, whilst others cannot be traced to external poisonous influences. A man has an attack of rheumatism or gout, but we never suppose that he has caught it of any one, but say that it is something peculiar to his constitution, either hereditary or acquired. The so-called local disease we classify according to the organ primarily at fault. Thus, we speak of disease of the nervous system, of diseases of circulation, respiration, and so on. Then these may be further subdivided; for example, in nervous diseases, we speak of affections of the brain, of the spinal cord, and of the nerves."

"*The Family Physician*" (*Introduction*).

THE PHYSIOLOGICAL PHYSICIAN.

"PHYSIOLOGY is the chief foundation of rational medicine. For disease, the penalty paid for conscious or unconscious violation of physiological laws, is neither an essence nor a thing. In the beginning, at least, it is but a series of alterations, mostly in mere degree, of physiological states. In their evolution, no new laws are brought into operation, nor is the character of those already existing altered. It is only the conditions of action which are changed; and, however different from those of health these results may seem, physiological laws preside as truly over the growth of a tubercle as over the development of a tongue. Hence it follows that the true and complete understanding of disease is to be reached only through mastery of the statics and dynamics of health, and that there can never be a great physician who is not at the same time a good Physiologist. Throughout the past every forward movement of Physiology has marked an epoch of improvement in the science and art of medicine.

And even to-day the study of the seemingly barren question of germ development has, in respect of wound-dressing, revolutionised the practice of Surgery throughout the world. Let me take for illustration a case of Indigestion. The practical man, as he loves to be, and with exquisite irony is sometimes called, considers whether the attack is asthenic or sthenic, congestive or irritable, and calling to mind the remedies for these respective conditions, he attacks the one in fault with antiphlogistics, or sedatives, or tonics, and if eating or drinking be worthy of special notice, with full diet or with low. The mere anatomist, claiming to be *par excellence* the man of science, endeavours with great form of procedure to determine the particular gastric tissue which is structually at fault, and localising the malady with marvellous precision in epithelium or gland, in blood-vessel or nerve, in connective tissue or muscle, he proceeds with a different working hypothesis to use somewhat the same means of cure. Last of all comes the Physiological Physician, who is as empirical and anatomical as either, and more physiological than both.

Believing that the malady is due to some violation of the conditions of healthy digestion, he investigates the manner of their fulfilment. Is the dietary too liberal or too restricted? Is the food proper or improper? Does the patient drink too much, or too little liquid, at too high or too low a temperature? Are the meals too far apart or too near? Does the patient waste his saliva, and yet indulge his taste for starchy messes? Is his urine loaded with gravel, and is he nevertheless clinging to beer? Is the stomach halting, because deprived of its rightful share of nerve force by undue work and worry? Does want of free elimination keep the blood impure with waste, and the secretions foul with decomposing stuff? Proceeding after this manner the physiological physician discovers where the conditions of healthy digestion are incomplete or broken, and then by some simple suggestion he recalls the patient to physiological obedience, and often without help from drugs relieves him from his trouble.

Address at the Opening of the 92nd Session of the London Hospital Medical College. By Sir A. Clark, Bart., M.D.

SIR JAMES PAGET'S PICTURE OF THE STOMACH AT WORK.

"THERE is another class of organs in which the alternations of action and rest, of waste and repair, appear essential to the full exercise and economy of power. The stomach is one of these; and a knowledge of the method of its office of digestion might prevent somewhat of its almost universal misuse.

"Its chief office in digestion is to produce a peculiar fluid, which, mingling with the food, may, by a process similar to fermentation, reduce it to solution or to a state of extremely minute division. This fluid, the gastric or digestive fluid, does not merely ooze from the blood, but is so formed in minute cells, that, for each minutest microscopic drop of it, a cell, of complex structure, must be developed, grow, and burst or be dissolved.

"A diagram would very well shew how the lining membrane of the stomach is formed almost entirely of minute tubes, set vertically in its thickness, like little flasks or

test tubes, closely packed and upright. The outer walls of these are webbed over with networks of most delicate blood-vessels, carrying streams of blood. Within, the same tubes contain cells, and those among them which chiefly secrete the digestive fluid are nearly filled with cells, which have taken materials from the blood, and from those materials have formed themselves and their contents. In what way they have done this we cannot tell; but we can tell that the process is one of complicate though speedy development and growth; even such a process as that by which, more slowly, the body grows, or any of its parts—the hair or the nails, or any other that we can best watch. The act of secretion or production of this fluid, is literally the growth and dissolution of the minute cells which, though they be very short-lived, yet must need a certain time for their complete elaboration.

"If this be so, it must follow, that we cannot with impunity interfere with that which seems a natural rule, of allowing certain intervals between the several times of feeding. Every act of digestion involves the

consumption of some of these cells; on every contact of food, some must quickly perfect themselves, and yield up their contents; and without doubt the design of that periodical taking of food, which is natural to our race, is that, in the intervals, there may be time for the production of the cells that are to be consumed in the next succeeding acts of digestion. We can, indeed, state no constant rule as to the time required for such constructions; it probably varies according to age and the kind of food, and the general activity or indolence of life, and, above all, according to habit; but it may be certainly held, that when the times are set, they cannot, with impunity, be often interfered with; and as certainly that continual or irregular feeding is wholly contrary to the economy of the human stomach. And yet such constant feeding is a frequent custom—not infrequently among the adult rich, but most frequent among the infants of the poor, for whom food is the solace for every grief."

Sir James Paget "On the Study of Physiology."

DR. HABERSHON'S ACCOUNT OF THE DIGESTIVE PROCESS.

"The function of digestion is essentially connected with life and health; and slight deviations from its normal performance produce suffering in a greater or less degree. He is, indeed, fortunate who can pass through his daily duties without having the thoughts and attention directed to those operations for the solution, absorbtion and assimilation of nourishment, which in health are completed unconsciously, without attention or sense of pain. If there be severe derangement of the digestive functions, not only is the attention directed to them, and discomfort entailed, but there is re-action upon the higher capabilities of man's nature: the energies of the brain are enfeebled, the memory is defective, the will vacillates, and the intellectual powers are less free to guide in daily duty, avocation and research. The strength and muscular movements are diminished, and the enjoyment of life changes to daily suffering and anxiety. Contrast the

vigour of mind and body during health with the enfeebled energy of the dyspeptic and hypochondriac. In the former state there is no impediment to the exercise of deep thought and labour in any sphere to which the mind may be diverted; the whole attention in the latter is absorbed by those functions, which are at best only subservient to the manly exercise of mind and will. If the digestive process be altogether checked and no new supply of nourishment be absorbed and assimilated, if no restoration be made to the waste entailed by the exercise of every function, life must sooner or later cease; and disease, in its ravages, presents few spectacles more distressing to witness than the gradual wasting of the frame, and cessation of life itself, from the non-supply of food. Thus the whole system sympathises with disorder of the alimentary canal.

"A knowledge of the structure and functions of each part of the digestive apparatus is necessary for the right comprehension of its diseases. The structures of the alimentary canal are various, and their sympathies universal; but in health these are so com-

bined as to form a beautiful and harmonious whole: Thus—1st. We find a mucous membrane richly supplied with glands, lining the alimentary canal throughout its course; these glands are for secretion and excretion; the secretions from these act physically or chemically in the digestive process, whilst the excretory glands separate noxious or effete principles from the blood. 2. Beneath the mucous is the muscular coat, essential for the excretion of the required movements, and for the propulsion of the contents of the canal. 3rd. The peritonal or serous covering, which by its smoothness permits of the movement of one portion of the intestine upon another, and allows distension to take place. 4th. The binding tissues, which are found between these previously mentioned tunics, and which support other equally essential parts, namely, 5th. The blood-vessels and lymphatics; and, 6th. The nerves supplied by the sympathetic and cerebro-spinal. As Abercrombie has remarked, in reference to diseases of the stomach, so also, it may be added, in reference to every part of the alimentary canal, that for the proper performance of the func-

tion of digestion the mucous membrane must be in health, the secretions normal, the supply of blood and of nervous energy such as is required, and the movements free It must, however, be borne in mind that the alimentary canal contains substances which are, strictly speaking, external to the living agency and beyond the control of animal life; and that those chemical forces, which we find in operation external to the body, act in the same manner within the stomach and small and large intestines; the food becomes dissolved when the same solvents are provided, and other circumstances are adapted, as to temperature, movements, &c., whether it be put in a phial or in the stomach. The fermentation of its contents takes place in the stomach and canal, as well as in any chemical receiver; and these facts have to be remembered in the study, as well as in the treatment, of disease. Chemical force is in operation throughout the whole animal; it is modified and controlled by the living power, or it is free to act alone.

"Each of the parts which have been mentioned may be alone diseased, or all con-

jointly; the symptoms arising from each are in some cases distinct, in others we cannot separate the one from the other."

From "Diseases of the Abdomen, comprising those of the Stomach and other parts of the Alimentary Canal, Œsophagus, Cœcum, Intestines and Peritoneum."

DR. KING CHAMBERS'S HINTS

"It must be observed that, so powerful is the influence of the mind over the body, that nothing is more common than for persons to exhibit wonderful idiosyncracies respecting their capability of digesting peculiar articles of food. Those who have a strong will seem able by perseverance to use themselves to assimilate almost anything assimilable. The gratification of desire puts the nervous system into a state most favourable to the secretions of gastric juice, and the thwarting of a prejudice, however whimsical, upsets temper and stomach at the same time.

"Some dyspeptics get into a bad habit of erasing from their future bill of fare everything that has once seemed to be followed by inconvenience. The result is an unwholesome

monotony of wrongly-selected victuals, and a despairing resignation to a needless abstinence. Let them, on the other hand, take the more hopeful course of adding to their dietary everything that they have once found to agree, and they will have a choice nearly as extensive as their robust brethren could wish If one cook cannot make a coveted article digestible, let them try another.

"Sugar at the latter end of meals certainly generates an excess of organic acids, and is to be avoided. But yet in moderation it promotes (as asserted by Blondlot) the flow of gastric juice; so that the custom adopted by Oriental nations of taking a few bon-bons is in accordance with reason, and might prudently be experimented on in this country. An excellent dietetic fillip to the appetite is a couple of pepsine lozenges, or the same quantity made into pills with sugar.

"A good drink at meals in atonic dyspepsia is bran-tea, care being taken that the bran is fresh, containing a fair proportion of cerealin adhering to it, and that it is not boiled. It is better without sugar or liquorice, which our forefathers used to put in it. Cold water

must be taken in great moderation by delicate persons. The reduction of temperature certainly assists secretion, as may be found by chewing ice; and though in robust stomachs there is a rapid glow of reaction and a consequent feeling of *bien-aise*, this is wanting to the weaker brethren we are now considering. Sipping tepid water, though not pleasant, is digestive.

"Fermented liquors are apt to cause a congestive flushing of the brain, face and neck, and a throbbing of the arteries. This may be viewed as an external evidence of what is going on unfelt in the abdomen. If these symptoms are prominent, a state of things is indicated not at all favourable to digestion, and we may be sure that alcoholic stimulants, *in the quantity taken*, are injurious. But that does not prove that in less quantity, or more dilute, they may not be beneficial. There is a quantity, capable of being arrived at in each separate case by experiment, *par la voie d'exclusion*, which just succeeds in stimulating the appetite without flushing the face. Very small indeed that quantity is sometimes, yet it is an actual, measurable quantity, not

'infinitesimal.' It has a genuine physiological effect, to be accounted for by its observed action on the nervous system and missed when it is not taken. I have known, for instance, the small sip of wine drunk at the sacrament of the Lord's Supper to make a decided difference for good in the digestion of an immediately following meal.

"If a patient has the common sense to regulate himself according to the foremen-tioned guide, there is not much need for interfering with the nature of the vintage he patronises. Port, Burgundy and dry Sherry agree if limited to tablespoonfuls. But if he persists in neglecting the warning, then we should persuade him to take Claret, Hock or Capri. Not that these are really better for him, but they are more dilute. Beer, sweet Champagne and sparkling wines, in general, almost always give rise to fermentation. Some persons finds it suits them not to have any alcoholic drink during the day, but to take a glass of hot whisky toddy on retiring to rest.

"Tea is most refreshing to the dyspeptic, if made in Russian fashion, with a slice of lemon on which a little sugar-candy has been

sprinkled, instead of milk or cream. One small cup of an evening is enough, and at breakfast its place is well taken by cocoa made from the nibs."

Thomas King Chambers. "*A Manual of Diet in Health and Disease.*" *Second Edition*, 1876.

GOLDEN HINTS BY A DISTINGUISHED PRACTITIONER.

"While difficult then to say how far rules should go, so as to attain the greatest amount of practical good, the physician must be furnished with full knowledge of all that are sanctioned by reason or experience, in order to give them direction to particular cases. For the guidance of patients themselves, those of course are best which are most promptly and safely applied; neither harassing the mind by anxieties of choice, nor the body by encouraging wayward fancies as to methods of prevention or cure. If, for example, I were to specify any general maxims as to food, preferable to others from distinctness and easy application, and serving as a foundation to lesser injunctions, they would be the following :—

"*First*, that the stomach should never be filled to a sense of uneasy repletion ; *secondly*, that the rate of eating should always be slow enough to allow thorough mastication, and to obviate that uneasiness which follows food hastily swallowed ; *thirdly*, that there should be no urgent exercise, either of body or mind, immediately after a full meal.

"The simplicity and familiarity of these rules may lessen their seeming value, but in practice they will be found to include, directly or indirectly, a great proportion of the cases and questions which come before us. And many such questions, as, for example, those which relate to different qualities of food, would lose great part of their difficulty were these maxims successfully enforced. When the quantity taken does not exceed the just limit —when it comes to the stomach rightly prepared by mastication, and by admixture with the secretions of the glands which aid the first stage of digestion—and when no extraneous interruption exists to the proper functions of the stomach in this stage—the capacity of digestion is really extended as respects varieties of food, and tables of

relative digestibility lose much of their value.

"It is certain that different temperaments require, whatever be the causes of this diversity, different proportions of aliment, and the same constitution alters its demand at different times, both in health and sickness. No rules of diet, therefore, can be made positive as to quantity, and the attempt at such is now generally abandoned. The criteria to be taken for particular cases are those furnished by the state of the several organs concerned in digestion, both immediately and at various intervals after food: and also by the effect of digestion while in progress upon other functions of the body. This is for the most part too intricate an observation for the patient himself. It is enough for him (and much indeed of positive good), if his adherence on conviction can be obtained to the simple rule stated above, viz.: habitually to stop eating at a point short of uneasy repletion. In effect this maxim is nearly identical with the more familiar one of not eating beyond the appetite. But it is to be preferred for practical purposes, as being

less liable to ambiguity and self-deception. Though with apparent relation only to the first stage of digestion, it is in truth more or less a provision for every succeeding part of the process, and for the well-being of all the organs concerned in it. A meal which sits lightly on the stomach in the outset, producing during the first hour no oppression, drowsiness, heat, acidity or other uncomfortable feeling, will probably pass healthily through all succeeding stages of digestion. If otherwise, the evil arises from some accidental or especial cause, against which no ordinary rule can provide."

Sir Henry Holland's "Medical Notes and Reflections."

CULTIVATE SERENITY: SOME SOURCES OF MODERN MALADIES.

"It may be both curious and useful to advert to a remarkable relation between the mental and corporeal functions of man, which has appeared to render the influence of the *moral* over the *physical* even more extended than it really is in the production of diseases. It is this; the *moral* affliction is very often only an accessory or auxiliary to the physical cause in bringing forth maladies of the body. Thus, a man may be daily exposed, for weeks or months, perhaps for years, to the contagion of typhus fever, to marsh miasma, or malaria, to the poison of scarlatina or erysipelas diffused in the air, or to that mysterious agent which produces cholera, with perfect impunity, his mind being easy and tranquil.

"But let a mental affliction occur, and immediately the morbific poison which had lain dormant in the constitution, or, at all events, was unable to develop itself, bursts forth and displays its specific effects—the moral tribulation appearing to be the direct

or immediate cause of the bodily disorder. This remarkable and well-known fact shows, not only how anxiety or trouble of mind lays the human frame more open to the operation of purely physical agents of a deleterious kind, but also how tranquillity or serenity of mind will render the said agents almost innocuous.

"I could fill a volume with the individual examples of this kind which I have personally observed, and am daily witnessing."

Dr. James Johnson "On the Economy of Health; or, the Stream of Human Life from the Cradle to the Grave."

THE NERVOUS INFLUENCE · HOW IT AFFECTS OUR HEALTH.

"CHANGES in the quality or amount of the nervous influence transmitted to the brain from any organ have a direct power of modifying its function. If, for example, from the peculiar state of the brain accompanying mental distress, the nervous influence sent to the stomach be impaired, the tone of that organ will also be impaired, and digestion become imperfect. Whereas if, in consequence of

pleasing excitement, the nervous stimulus be increased or improved, a corresponding activity will be communicated to the stomach, and digestion will be facilitated, as is experienced after a dinner in pleasant society.

"Something analogous to this is still more visibly exhibited in the case of the muscles. If the mind be active and decided, the muscles, receiving a strong stimulus, move with readiness and force; but if the cerebral activity be impaired by bilious depression, muscular action becomes slow, infirm and indolent. Accordingly, muscular debility is one of the first symptoms of many diseases of the brain and spinal cord. The patient complains of want of tone in the muscles, of being easily tired, and of being obliged to rest frequently. More decided symptoms of weakened muscular power soon follow, there is hesitation of speech, the tongue acquires a tremulous motion, and other symptoms of paralysis gradually develope themselves in consequence of the lessening flow of a healthy stimulus from the nervous system. But if, on the other hand, the brain be excited by strong passion, and the stimulus be thus

augmented, the muscular movements become energetic and decided, and are sometimes performed with a force that is truly surprising.

"As the kind of nervous influence depends on the condition of the brain, that which springs from a brain having all its parts in sound and vigorous action is the most salubrious. Mental indolence and high mental excitement are alike inimical to bodily health; and consequently our great aim should be to secure for every mental power, moral as well as intellectual, that equal and regular exercise from which alone the proper nervous stimulus can spring.

"It is indeed interesting to observe the effects of the nervous influence as varied according to the faculties in predominant action at the time it is produced. If the higher feelings have the ascendency, and the more selfish propensities be merely active enough to give force to the character without setting the mind at war with itself, the nervous influence is the most grateful and efficient for sustaining the healthy co-operation of the whole body. This result follows,

because the Creator evidently designed such a state of mind to be the best and happiest for man himself, and has therefore taken care to surround him with every motive to induce him to enter into it.

"If, however, the lower feelings be in great activity, and impel to designs and conduct repulsive to the moral sentiments, so that the faculties are ranked in opposition to each other, or if the mind be oppressed with grief, anxiety, or remorse, the stimulus which the brain gives will be far from beneficial, because no longer in accordance with the conditions designed by the Creator. It is in such circumstances, accordingly, that bad health is so often seen to arise from the state of the mind, and that suffering is produced which no art can relieve till the primary cause has ceased to exist.

"Similar results follow over-exercise of the intellect and inactivity of the feelings. From the concentration of vital action in the brain, the stomach and other organs are unprovided with the requisite nervous stimulus, and become impaired in their functions; hence the dyspeptic and hypochondriacal symptoms

which often render life a burden to literary men. Persons so situated, when advised to attend to diet, often answer that it is in vain, and that, while at some times nothing can be digested, at other times, perhaps within a few hours or days, nothing comes amiss—the power of digestion varying thus quickly according to their mental condition. Whereas, when indigestion arises from a primary affection of the stomach, the least deviation from a proper diet proves injurious. In both instances, attention to diet is beneficial, but in the one it is less rigidly important than in the other.

"The influence of the brain on the digestive organs is so direct that sickness and vomiting are among the earliest symptoms of many affections of the head, and of wounds and injuries of the brain; while violent emotions, intense grief, or sudden bad news, sometimes arrest at once the process of digestion, and produce squeamishness or loathing of food, although an instant before the appetite was keen. Narcotics, the direct action of which is on the brain, have a similar effect on the stomach.

"The influence of the mind and brain on

the action of the heart and lungs is familiar to every one. The sighing, palpitation, and fainting so often witnessed as consequences of emotions of the mind, are evidences which nobody can resist. Death itself is not a rare result of such excitement in delicately-organised persons.* During sleep, when the action of the brain is suspended, the animal heat shows a tendency to decline, and the body becomes more liable to be influenced by the causes of disease. Chossat's experiments have shown that this depends on the chemical metamorphoses which produce the animal heat being lessened during sleep, owing to the withdrawal of the cerebral stimulus. Accordingly, the attacks of epidemics occur most frequently in the night.

* "It not only appears that a simple withdrawal or disturbance of the nervous force supplied to particular organs occasions a retardation or perversion of their vital operations, but there also seems evidence that an influence of an opposite kind may be transmitted through the nervous system, which is positively and directly antagonistic to the vital powers of the several tissues and organs; such, at least, appears to be the only mode of accounting for the extraordinary effect of a shock, mechanical or mental, in at once and completely destroying the contractility of the heart."—*Dr. Carpenter in "Phil. Trans.,"* 1850, p. 740.

"By the laws of our constitution, then, the regulated activity of both intellect and feeling is essential to sound bodily health, and this seems to me one of the most beautiful arrangements of an all-wise and beneficent Creator.

"If we shun the society of our fellow-creatures, and shrink from taking a share in the active duties of life, mental indolence and physical debility beset our path. But if, by engaging in business, and doing what we can for the advancement of society, we duly exercise our various powers of perception, thought and feeling, we promote the health of the whole corporeal system, invigorate the mind itself, and at the same time experience the highest mental gratification of which a human being is susceptible—that of having fulfilled the object of our existence, in the active discharge of our duties to God, to our fellow men, and to ourselves. If we neglect the exercise of our faculties, or withdraw them from their objects, we weaken the organism, give rise to distressing diseases, and at the same time experience the bitterest feelings that can afflict human nature—ennui and

melancholy. The harmony thus shown to exist between the moral and physical worlds is but another example of the numerous inducements to that right conduct and activity in pursuing which the Creator has evidently destined us to find terrestrial happiness."

Dr. Andrew Combe's "Principles of Physiology applied to the Preservation of Health."

INFLUENCE OF THE NERVOUS SYSTEM ON DIGESTION — SMOKING.

"It is certain that if the food be not well masticated, we must have the powerful gastric juice of a dog or a lion to compensate this deficiency; otherwise a larger proportion of the unchanged food will be transmitted to the intestines than they can well manage, or will lie like a load oppressing the stomach. The starch will descend in lumps, and although much of it will be dissolved by intestinal digestion, some will pass away undigested.

"If the secretion of gastric juice be languid, or if the fluid be not sufficiently acid, chymification will be laborious and painful. If the bile rise in the stomach digestion will cease;

if the secretion of bile be too scanty, the food will be like a burden, and produce diarrhœa or sickness; and so on to the end of the chapter. Let there be only a little less acid, or a little more alkali, each of which depends on complex conditions, and Digestion, which to the young and healthy is as easy as it is delightful, becomes the source of misery.

"Ill-selected food is one source of these evils; but it has been touched on in a previous chapter, and need not detain us now. Want of fresh air and exercise is another source. The action of the liver is particularly affected by exercise; and all who suffer from biliousness should pay their fees to the livery stable and waterman, horse exercise and rowing being incomparably the best of prescriptions. A walking excursion, especially in mountain districts, and with resolute avoidance of walking too much, will be of great service to the dyspeptic. It is important to bear in mind, moreover, that although sedentary habits are very injurious to the digestion, they are less so than bad ventilation; those who sit long, and sit in bad air, are sure to suffer.

"The influence of the Nervous System is perhaps even more prominently manifested than that of any other cause of Indigestion. It is comparatively rare to meet with Indigestion among artisans, in spite of their ill-cooked food, their exposure to all weathers, and other hardships; and it is rare to meet with good digestion among the artisans of the brain, no matter how careful they may be in food and general habits. Protracted thought, concentrated efforts in the directions of Philosophy, Science, or Art, almost always exact a most terrible price. Nerve tissue is inordinately expensive. But it is worthy of remark that mere intellectual activity, when unaccompanied by agitating emotion, never seems to affect the Digestion, unless the effort be of an unusual intensity. Our passions are destroying flames. Anger, Ambition, Envy, Despair, Sorrow, and even sudden Joy, immediately disturb the digestion. A letter bringing bad news, the sight of anything which painfully affects us, a burst of temper, or an anxious care, will sometimes render the strongest of us incapable of digesting a meal. If the food be swallowed, it will not be

digested, or digested only at a vast expense. And herein may be learned a lesson against a very common mistake committed by very sensible people. When a friend is overwhelmed with grief, we try to force him gently to take the food he obstinately refuses. 'Do try and eat a mouthful; it is necessary for your strength; you will fall ill.' Perhaps our entreaties succeed; he takes a little food 'as a support.' Error! the food will weaken, not strengthen him. In such cases instinct may safely be relied on. When a man is hungry, he will eat. When he will not eat, he should be left in peace until hunger prompts. If in compliance with the entreaties of friends he takes a meal, it will do him harm rather than good. There are, indeed, people who think that to eat in times of sorrow is a sign of disrespect; as if appetite were subject to the will. Such people must be reasoned with, and told that it is as foolish to refuse food when the appetite demands it, as to eat it when the system rebels against it.

"There is another direction in which the Nervous System influences Digestion, although

it can only be briefly alluded to here. When we come to treat of nervous phenomena, we shall more particularly examine the nature of Reflex Action ; at present it is enough to say that certain parts of the organic mechanism are so intimately allied in action that they are said to *sympathise* with each other. All parts of the alimentary canal sympathise. Whenever the saliva is profusely secreted, the gastric juice 'sympathises' and is also secreted ; and any irritation of the mucous membrane of the stomach increases the flow of saliva. This is a fact to be borne in mind, the more so as few persons seem thoroughly aware of it, although it serves as a simple indication of an irritated state of the stomach, which they might well note. In my own person, I have frequent experience of it ; and the presence of an unusual flow of saliva is always a warning to me that the mucous membrane of my stomach is affected. Doctor Gairdner mentions the remarkable case of a man who secreted from six to eight ounces of saliva during a meal of broth which was injected into his stomach ; and the reverse has been observed — an excitation of the

nerves of taste, producing a flow of gastric juice and bile.*

"The deduction from these facts is simple and important. All who are troubled with a deficiency of gastric juice should be careful to let their food be as full of flavour as possible. Tasteless food, by leaving the nerves of taste comparatively quiet, leaves the secretion of gastric juice proportionately feeble. Food which has a relish can be more easily digested. Every one knows that we can eat a variety of dishes with less labour in digestion, than a smaller quantity of one kind of food, simply because the variety of relish makes the digestive process more active.

"It is, I conceive, from the same law of sympathetic action that smoking, after a meal, assists digestion. There has been much discussion respecting the injuriousness of smoking ever since Tobacco was first discovered; but as Physiology was—and still is in most circles—little understood, a very considerable amount of nonsense has been, and continues to be, uttered on this question. It is a positive fact that the

* Gairdner: *Edin. Med. and Surg. Journal*, XVI. 355; Brown Séquard: "Lectures," *in Lancet*, Nov. 1858, p. 476.

gastric secretion can at any time be produced by simply stimulating the salivary glands with tobacco; and, as before stated, whatever stimulates the secretion of saliva promotes that of the gastric juice. Smoking does this. A cigar *after* dinner is therefore to that extent beneficial. Not so *before* a meal.

"But the action of tobacco is not confined to this—it has other influences, some beneficial, some injurious; the amount of injury depends on the nature of the organism; and therein each person must judge for himself. There is only one caution which it is right to place before the reader. When tobacco is said to be not injurious, it must always be understood to mean tobacco in small quantities. Excess in tobacco is very injurious; so also is excess in alcohol; so also would be excess in mutton chops. All excess is dangerous. All stimulants should be used sparingly. Yet the man who never thinks of exceeding his half-a-pint of wine or his pint of beer daily, makes no scruple of smoking a dozen cigars. From my own experience, rendered vigilant as I am by a delicate digestion and an easily disturbed organism, I can conscientiously say that two

cigars daily, always taken after, and never before the chief meals, have proved themselves to be decidedly beneficial in many directions; but I should no more think of increasing that quantity than of increasing my daily quantity of coffee or beer. Other organisms could of course endure greater quantities. Each must determine the proper limit for himself, and, having determined it, *abide* by it.

"Among the many slight causes of impaired digestion is to be reckoned the very general disregard to eating between meals. The powerful digestion of a growing boy makes light of all such irregularities, but to see adults, and often those by no means in robust health, eating muffins, buttered toast, or bread and butter, a couple of hours after a heavy dinner, is a distressing spectacle to the physiologist. It takes *at least four hours* to digest a dinner; during that period the stomach should be allowed repose. A little tea, or any other liquid, is beneficial rather than otherwise, but solid food is a mere incumbrance; there is no gastric juice ready to digest it, and if any reader, having at all a delicate digestion, will attend to his sensations

after eating muffin or toast at tea, unless his dinner has had time to digest, he will need no sentences of explanation to convince him of the serious error prevalent in English families of making tea a light meal quickly succeeding a substantial dinner.

"Regularity in the hours of eating is far from necessary, but regularity of intervals is of primary importance. It matters little at what hour you lunch or dine, provided you allow the proper intervals to elapse between breakfast and luncheon, and between luncheon and dinner. What are those intervals? This is a question each must settle for himself. Much depends on the amount eaten at each meal, much also on the rapidity with which each person digests. Less than four hours should never be allowed after a heavy meal of meat. Five hours is about the average for men in active work. But those who dine late —at six or seven—never need food again until breakfast next day, unless they have been at the theatre, or dancing, or exerting themselves in Parliament, in which case a light supper is requisite."

"*The Physiology of Common Life.*" *By Geo. Henry Lewes.*

ON THE CAUSES OF INDIGESTION.

"REGARDING many of the causes of indigestion, whether physical, moral or intellectual, it may be affirmed that those at first merely predisposing may at length become immediate and exciting. Continued excess or impropriety of diet, for example, may, for long, operate merely as a predisposing cause; and a man may, for a time, experience no attack, properly so called, of dyspepsia. A point at length is reached, however, when a meal not larger than usual induces a distinct and regular dyspeptic attack; the relatively augmenting debility of the patient's digestive organs having at length given, to a long operating predisposing, the power and energy of an immediate cause.

"Grief and anxiety long suffered, may, when happening suddenly, and in a person hitherto healthy, operate for a while merely as predisposing agencies. As, however, the functions of the stomach fail under the load of moral depression, the sorrow or care, although not greater, it may be even less

than at first, acquiring relative strength, merges into an exciting cause of digestive derangement. The same principle extends to almost all the other causes, whether physical or moral, of this disease.

"It is obvious, therefore, that the phrases, predisposing and exciting, are in a considerable degree relative terms. A cause that to a person not hitherto subject to dyspepsia, may be utterly inefficient, or at least very remotely and temporarily predisposing, may, with a person already subject to the disease, prove proximate and exciting. Thus, with the healthy man the consequences of excess in one meal are gone with the morrow; with the dyspeptic they may be felt during days, weeks or months. Unexpected painful news, that merely sober a robust man, may entirely prostrate a dyspeptic, and induce a long and severe paroxysm of his peculiar malady. Such cases occur every day. The excitement of a dinner party, or the effort of maintaining conversation with a friend is often sufficient to awaken the slumbering dyspepsia of persons who are victims to it.

"Thus it appears that the causes of indi-

gestion are relative as regards individuals, and that the remote are continually, by mere repeatedness of application, converting themselves into immediate causes. A classification of these, applicable to all cases, is consequently not to be expected. . . . . Of the REMOTELY PREDISPOSING CAUSES—TIME OF LIFE may be considered as the first. Dr. Philip assigns the period of life from puberty to about thirty; Dr. Copland, from twenty to fifty-five, as predisposing to indigestion. My experience coincides with the term of the latter writer. The passions and the excesses into which they too often lead, have seldom had time to produce their debilitating effects, and to sap the natural vigour of youth, until after twenty. About this time, or rather soon after it, the cares incidental to the young man's taking up a position in the world, predispose to this disease in a remarkable manner. These effects generally declare themselves, if at all and from this source, in the course of the next few years. If indigestion have not been experienced before thirty-two, it seldom is felt until forty, or some years beyond it. About the last period the

passions often operate again with great violence, and if our undertakings have not been successful, the consciousness that it is late and difficult to retrieve lost opportunities and reconstruct fortune, exerts a depressing power.

"It is popularly said, that in infancy diseases of the head prevail, and are peculiarly to be dreaded; in youth diseases of the chest; in middle and old age, maladies of the bowels and urinary organs. But Dr. W. Philip very justly remarks somewhere that the head diseases of children are almost invariably only secondary affections; the primary derangement being seated in the stomach and bowels. In every period of life the integrity of the digestive organs is the best of all securities against the invasion of every form of disease.

It seems to be necessarily *owing to moral causes* that the period of life above indicated is predisposing to indigestion, since at no other period are the physical functions naturally more vigorous and regular.

Dr. Robert Dick on "Derangements, Primary and Reflex, of the Organs of Digestion."

THE VARIETIES OF COSTIVE MISCHIEF.

"We have to consider the consequences resulting to the bulk of mankind from costiveness. To enumerate the ailments would be little short of a classification of all the diseases we are heirs to. They are, in truth, the deadly enemy, the slow and secret fiend, whose disguises are innumerable, but whose end and operation are the uniform and perpetual scourge of mankind, has more influence over the fate of families, and even of nations, than is generally supposed. Some of our kings, the Protector Cromwell himself, have suffered from its morose and melancholy powers.

"By the young and thoughtless it is little regarded, because it rarely occasions them much *present* pain or inconvenience, and is suffered to continue, till it lays the foundation of diseases which embitter their very existence, even to the remotest period of their lives. I find among the immediate diseases consequent to both sexes from constipation

and costiveness, and the irritation produced by purgatives to relieve these afflictions, are the following: Suppression or retention of menstruation, fluor albus, a sense of bearing down and fulness (particularly when complicated with piles) in the rectum, bladder and womb, general uneasiness in the abdominal region, flatulence, indigestion, nausea, and sickness of the stomach, swelling of the legs and ankles, hysterics, nervous tremours and convulsions, palpitation of the heart, St. Vitus's Dance, epilepsy, curvatures of the spine, contortion of the limbs, an increased flow of blood to the head, oppressing the brain and depressing the spirits.

"The sympathetic association or complication of diseases that may be classed amongst the remote consequences of constipation and costiveness are:—various disorders of the stomach, liver, and large intestines, febrile disturbance, nervous ailments, diseases of the womb, cutaneous eruptions, headaches, vertigo. In the lower bowel or rectum it produces piles, hæmorrhoidal tumours, copious discharges of blood, tenesmus (a frequent desire to evacuate the bowels, with

straining), and these last-named affections generally terminate in prolapsus recti, or protrusion of the bowel, with every evacuation, and, as age advances, with every attempt to walk. It also produces, in the lower bowel, spasmodic and permanent stricture, fistula, ulceration and abscess."

Paul's "Practical Observations on Costiveness."

THE FAR REACH OF DIGESTIVE DERANGEMENT.

"No enlightened practitioner can long attentively pursue the study and practice of medicine without being impressed with the great and extensive influence exercised by the digestive functions over other parts of the human frame; indeed, so marked and important is this influence, that there is scarcely a disease, not originating in mechanical injury, which does not own, in some degree, at least, derangements of these functions as its foundation, either in its origin or continuance. It is directly the sole foundation or source of the majority of *chronic* disorders, and remotely or indirectly so of many of those

which are *acute;* while the smaller number which have had another origin are still so greatly dependent on the integrity of these functions for their perfect removal, that when this fact is overlooked, it often becomes the source of a protracted cure."

Dr. T. J. Graham's "Observations on some Painful Complaints Originating in Indigestion."

FRICTION: A SIMPLE AND MUCH-NEGLECTED MEANS OF OBTAINING DIGESTIVE RELIEF.

"FRICTION is a remedy of some antiquity, used still in the East Indies, where it was first adopted, and latterly introduced into European practice. It is one of those salutary expedients by which the whole body receives nearly as much benefit as from a tepid bath, and which, as being in the power of every person, ought to be more frequently as well as more generally used.

"To the sedentary, the hypochondriac, and those troubled with indigestion, and who cannot afford leisure to take sufficient exercise, daily friction—of the belly in particular—

cannot be too strongly recommended, as an eligible substitute of other means, for invigorating the system. And, although friction may not be attended with all the advantages derived from exercise in the open air, it nevertheless produces a powerful effect on the organs of digestion ; for the moderate exercise of a whole day will scarcely invigorate the abdominal vessels, and particularly the stomach, so much as the friction of these parts, continued for half-an-hour.

" This species of exercise, which admits of being performed either by the naked hand, a piece of flannel, or, by what is still better, a flesh brush, is one of the most gentle and useful that can be adopted, and to which the whole body may be subjected; but principally the abdomen, the back-bone, the arms and legs. It clears the skin, resolves stagnating humours, promotes perspiration, strengthens the fibres, and increases the warmth and energy of the whole system, and is frequently found to be an excellent remedy in rheumatism, gout, palsy, green-sickness, etc.

" With a view of strengthening the organs of digestion, friction may be performed in the

morning, on an empty stomach, or in bed before getting up, by using a gentle and *circular* motion of the hand for about five or ten minutes at a time. In a weak state of the abdomen and the nerves in general, still more salutary effects may be derived from friction, if the stomach and abdomen be rubbed over every morning after getting up, and every night before going to bed, with a sponge, or a piece of flannel dipped in cold water. This method possesses still greater advantages over medicine taken internally, as it can be safely employed, and in cases where the alimentary canal, from its obstructed state, scarcely admits of any other remedies, while friction and the effusion of cold water, generally relieve not only these obstructions, but even habitual costiveness. Motion or exercise, of whatever kind, ought only to be continued till an agreeable lassitude, and a sensible degree of perspiration, is felt. If carried further than this, instead of strengthening the body, it weakens it, and does harm by filling the lungs with an excess of heated blood. Neither ought the thirst generally felt after exercise to be instantly satisfied by

cooling drink. If we cannot wait till the warmth be reduced to the natural temperature, some warm diluent liquors may be allowed. For the same reason, after having taken exercise, no one should rest in a cool place, or upon a green plot, or remain exposed to a current of air, but rather resort, in summer to some spot warmed by the mild rays of the sun, or, in winter, to a moderately-warmed apartment, to prevent the sudden change of temperature from injuring us, by suppressing the perspiration too suddenly."

J. T. Forsyth, Surgeon. "*The Natural and Medical Dieteticon; or, Practical Rules for Eating, Drinking, and Preserving Health on Principles of Easy Digestion.*"

WORRY AT MEALS TO BE SEDULOUSLY AVOIDED.

"MERE experience must have taught every one with what zest he sits down to enjoy the pleasures of the table, and how largely he inclines to eat, when the mind is free, unburdened and joyous, compared with the little attention he bestows on his meals when he is

overwhelmed with anxiety, or has the whole mental energies concentrated on some important scheme. There cannot be a doubt, indeed, that the over-exertion and excitement, or absolute inertness of mind, in which sedentary people are generally immersed, contributes greatly, along with the want of muscular exercise in the open air, to impair the tone of the digestive organs. In this way, as Dr. Caldwell not less justly than forcibly remarks, 'dyspepsia *commences*, perhaps, as often in the brain as in the stomach. Possibly oftener. That this is true of the disease in Europe will scarcely be denied, after a fair examination of the facts connected with it. It is there almost exclusively a complaint of the studious and the scheming, who, overtaxing their brains, injure them by toil. Among the husbandmen of England, who steadily pursue their tranquil mode of life, regardless of the fluctuations of stock, the bickerings of party, the fate of political measures, and the changes of place, dyspepsia is almost a stranger.

"'In the cities, the same is in a great measure true of merchants, manufacturers,

and mechanics, who are engaged in a regular and well-established business, which is fully understood by them, where the risk is slight and the profits sure, and no disquieting anxiety attends it. Such individuals have a good digestion, and bear the marks of it. But with literary men, officers of state, dealers in scrip, daring adventurers, and anxious and ambitious projectors of improvements—with these and every other brain-worn class of persons, the case is different. Dyspepsia is their torment, and they exhibit deep traces of it in their lean forms and haggard countenances. Yet are they much more select in their diet, both as respects quality, quantity, and cooking, than the classes to whom dyspepsia is unknown. This fact is notorious, and has been so for centuries. Nor can it be attributed, I think, to any other cause but excessive and deleterious cerebral irritation in the one case, and an exemption from it in the other, and this cause seems sufficient to solve the problem.' *

"In denouncing active exertion of mind or body immediately after eating as inimical to

* Caldwell's "Thoughts on Physical Education."

digestion, I do not mean that we should go to sleep, or indulge in absolute listlessness. A weak constitution may require something like complete repose, but a person in ordinary health may indulge in a leisurely saunter or pleasant conversation, not only without injury, but with positive benefit; and perhaps there is no situation in which digestion goes on so favourably as during the cheerful play of sentiment in the after-dinner small talk of a well-assorted circle. The nervous stimulus sent to the stomach is then of the most healthful and invigorating description, and even the dyspeptic, if on his guard against a heavy meal, forgets his woes amidst the unwonted vigour of his functions.

"It is true that thousands who habitually neglect the observance of the condition here adverted to, continue to live and digest for years without appearing to suffer much from their conduct. But it is not less true that there are many more who bring wretchedness and disease upon themselves and their offspring in the vain attempt to counteract the intentions of Nature, and that there are comparatively few, even of the former, so happily

constituted as to escape entirely unscathed. Most frequently the evil consequences are only accumulating, and when they are summed up at the end of years the victim finds himself more severely punished than he had ever expected to be. In this respect the consequence resembles that arising from breathing in a vitiated atmosphere. The effect may not be perceptible for a time, but if God has ordained a pure air to be best adapted for respiration, we have the infallible authority of His omniscience for believing that one that is vitiated *must* be less wholesome, although His beneficence has so constituted us that the injury resulting from it is gradual in its infliction, for the very purpose of giving us time to escape. In like manner, if bodily and mental relaxation are favourable to digestion, we have the same infallible assurance that every departure from them *must* be in so far hurtful, however slowly the effect may develop itself."

Dr. Andrew Combe on "The Physiology of Digestion Considered with Relation to the Principles of Dietetics."

CONSTIPATION TO BE WATCHED

"When the fæces are evacuated less frequently than the age of a person demands—when they are indurated — when they change their natural colour and odour, derangement of the stomach and bowels are indicated, and the approach of disease, if disease be not already formed, is to be apprehended. For it is not to be imagined that organs of so great importance in the animal economy as the stomach and the bowels are can be long in a state of inaction and the general health remain unimpaired. I am indeed aware that constipation may sometimes prevail, even to a great extent, in robust and otherwise healthy people, without immediate injury. In such persons the circulating system is powerful; the excrementitious fluids, therefore, may be so quickly discharged by the other organs as to leave a comparatively small proportion to be secreted in the intestines, incapable, from its bulk, to give a stimulus sufficient to excite a regular propensity to evacuate the bowels. This bulk, however, being gradually acquired,

the fæces are at last avoided under the appearance of a costive stool. But this constitutional constipation is not unattended with danger, and it is at all times desirable to obviate it."

Dr. James Hamilton (of Edinburgh), "Observations on the Utility and Administration of Purgative Medicines in Several Diseases."

THE LABOUR OF DIGESTION AND THE DANGERS OF GOOD LIVING.

"One final reflection must be added, namely: that the magnitude and exactness of the whole digestive process well suggest the wear and tear it implies to the system at large, and the fatigue—if we may use the word in a metaphorical sense — to the organism in general which the excessive injection of food, whether relative or absolute, must necessarily amount to. The practising physician sometimes sees patients whose constitutions are thus worn out by the mere exertion of good living, uncomplicated by any other variety of mental or bodily toil. And even in those states of debility which demand careful sup-

port, it is often a matter of great nicety for him to decide when that generous diet which is called for by the symptoms would, if pushed any further, begin to oppress and detract from the strength it is intended only to support."

Dr. Brinton on "Food and its Digestion."

THE NOBILITY OF THE MEDICAL FACULTY.

"To non-professional persons I would say, examine for yourselves, and see that the art of healing is a true work. Not a set of rules; not a doctrine; but a real means of adding to life and to happiness. See—for you can see if you like—that her foundations are not opinion or traditional notions, but a true knowledge of God's works. Look, and see that not cleverness, nor knack, nor habit learned from others can be the chief virtues of the professor of this art. There is scope in it for the highest and broadest intellects, for wisdom, prudence and judgment, as well as for the virtues of perseverance and charity.

He in our profession who is first in the scale of humanity is the first and best physician.

"I would call upon all to remember what a high matter it is that we take upon ourselves to handle. Man's life!—that which makes him God's viceroy on earth; for divorced dust and spirit cease to hold that lofty post. To aid us in our duty we are endowed with dominion over not only brute matter, which we can number and weigh, but over those unseen forces which our reason makes known to us—heat, electricity, vitality, and maybe other yet nameless 'powers of the Lord.' Our business is to use them to lengthen and lighten man's earthly trial. Every minute that our ministrant zeal upholds it in vigour fosters a fresh hope of working out salvation for himself and others; every minute by which it is shortened damps that hope."

"*Lectures: Chiefly Clinical.*" *By Thomas King Chambers, M.D., Honorary Physician to H.R.H. the Prince of Wales, and Physician to St. Mary's and the Lock Hospitals.*

IMPERFECT MASTICATION.

"The great evil of imperfect mastication is, that the starch—which forms so large a portion of our nutriment—passes unchanged into the stomach, and imposes an undue amount of labour on that organ. In the United States of America, the various forms of dyspepsia prevail to an extent unparalleled in any other country, partly because in no other civilised country is food so expeditiously swallowed. Nature has ordained that the process of eating shall be productive of pleasure; why, therefore, should we deprive ourselves of the rational enjoyment derived from food, by devouring it with a rapidity that often only produces a sensation akin to that of choking? Rapid eating is a bad habit, which a little reflection as to its mischievous results would probably cure. It is often occasioned by permitting one's thoughts to wander from the subject of nutrition to other matters. At meal times our rules should be—to feel grateful to a beneficent Providence for the good things set before us, to banish from our

minds for the time all thoughts of the cares and responsibilities of our position, to eat slowly, to chew thoroughly, and to extract from our food all the enjoyment which it is capable of yielding. To strictly adhere to these rules does not imply that we are gourmands; not to observe them will probably be the cause of some form of dyspepsia."

"Lectures on the Preservation of Health," by Charles A. Cameron, Ph.D., M.D.

AN OLD-FASHIONED TRUTH.

"THE whole art of preserving the body in its natural state, consists in supplying that which is deficient, and carrying off that which is redundant; still, notwithstanding the reproductive powers of life, and the provisions made by Nature for correcting every derangement incident to the human frame, everyone knows that it contains within itself the elements of its own dissolution. A period must ultimately arrive in each man's history, when the powers of life will be finally exhausted, and their regeneration be no longer possible. Let me, then, most earnestly beg of

my readers to pause, and put this plain and serious question straitly to themselves: *Why should that period be accelerated by our own injudicious conduct, or by disease and pain being substituted for health and pleasure?*"

Joel Pinney on "The Alternative: Disease and Premature Death, or Health and Long Life."

HOW TO PREVENT DISORDERS OF THE BRAIN.

"A VERY important requisite in preventing cerebral and mental affections is to regulate the exercise of the different powers of the mind, so as not to leave those which are naturally in excess in undisturbed sway over the rest, but to strengthen the latter by well-directed employment . . . . The moment the cause begins to excite sleeplessness by night and restlessness by day, with an involuntary propension of the mind in one direction, at first perceptible, perhaps, only to the patient himself, it is time to take alarm, and if possible remove or counteract its agency.

"If it is excessive application to business, continued anxiety of mind, or excess of study,

that is keeping up the activity of the brain, and placing it on the verge of disease, this may often be prevented by timely relaxation, or removal from the scene of anxiety, and particularly by carrying off much of the nervous energy in abundant muscular exercise often repeated, and by rigidly abstaining from mental exertion *at night*, and thereby allowing the brain to fall into that state of quiescence most favourable for repose."

Dr. Andrew Combe's "Observations on Mental Derangement."

THE CAUSES OF CONSTIPATION.

"The causes of constipation may be *local*—an impediment to the onward movement of the fæces in the large intestine or from the rectum; or *general*—pertaining to habits, diet and other conditions . . . . the *remote* or *general* effects of constipation are lassitude of body and mind; headache, flushing and heat of head, vertigo; anæmia and wasting."

Dr. George Oliver (of Harrogate) in Dr. Richard Quain's "Dictionary of Medicine."

THE PATIENT SHOULD KNOW WHAT TO EXPECT.

"No diseases are more capable of receiving benefit from medicinal agents than disorders of the stomach. In most other diseases, the stomach is merely a medium of transmission, while in the present instance our remedies come directly into contact with the affected part. The action of medicines on the stomach may, in this respect, be compared with the effects of external remedies on diseases of the skin, the difference being in favour of the more impressible gastric mucous membrane.

"The patient should, however, be always instructed in what is really to be expected from medicines. He should be assured that their efficacy consists rather in rectifying morbid conditions than in preventing their recurrence. That recurrence can only be averted by attention to dietetic and hygienic rules, which no medicines can supersede.

Dr. Arthur. Leared "On the Causes and Treatment of Imperfect Digestion."

THE POWER OF LITTLE THINGS IN NERVOUS DISORDERS.

"The manifestations of nervous disease are immensely influenced by the general state of heath of the patient, and this not only in so-called functional, but even in the gravest of structural diseases. There is indeed no class of affections in which more good may result from a minute regard to diet, exercise, amount and kind of labour, and that general attention to all hygienic details upon which those most skilled in the treatment of these diseases always largely rely. There are few chronic diseases of the nervous system, even of the most obstinate and progressive type, in which very much may not be done either to arrest or to stay their progress, by careful attention to such hygienic details, by the judicious administration of drugs, and by maintaining the general health of the patient at the highest possible standard."

Dr. H. Charlton Bastian, F.R.S.

THE AFTER-DINNER "NAP."

"As regards the *siesta*, or the 'nap' after dinner, it has been questioned whether it can be indulged in with impunity. It is certain that after a full meal both man and other animals feel a propensity to sleep, but it is not certain that digestion is facilitated by it; on the contrary, it has been maintained that it is more tardy than in the waking condition. The difference in this last respect is so great, that, as Broussais remarks, the appetite recurs many hours before the usual time when long watching is indulged, and an additional meal becomes necessary—proving the truth of the old French proverb, *qui dort dine*, 'he who sleeps dines.' Dr. Kitchener has collected a number of opinions in favour of remaining quiet after dinner; but all the respectable individuals cited would not have regarded sleep with equal favour. Absence from all active exercise doubtless aids digestion, and we are not prepared to say that, even admitting a short *siesta* to somewhat retard digestion, we have ever known evil to

result from it. In hot climates, indeed, it is a universal practice, and its impunity has led to the universality of its adoption. Yet Macnish has described it as 'pernicious.' 'On awaking,' he remarks, 'from such indulgence, there is generally some degree of febrile excitement, in consequence of the latter stages of digestion being hurried on; it is only useful in old people, and in some cases of disease.' But if 'pernicious' in the abstract, it is not easy to see how it can be useful under the circumstances specified.

"If, therefore, the desire for sleep after dinner, or indeed at any period of the day, be urgent, it ought to be indulged for a short time; for, as Dr. Kitchener asks, 'Is it not better economy of time to go to sleep for half-an-hour than to go on noodling all day, in a nerveless and semi-superannuated state—if not asleep, certainly not effectively awake for any purpose requiring the energy of either the body or the mind?' 'A forty winks' nap,' in a horizontal posture, is the best preparative for any extraordinary exertion of either."

Dr. Robley Dunglison on "Human Health."

THE CURATIVE POWER OF CHEERFULNESS AND HOPE.

"EVERY one who has either attended invalids, or been an invalid himself, must often have remarked that the visit of a kind and intelligent friend is highly useful in dispelling uneasy sensations, and in promoting recovery by increased cheerfulness and hope. The reason of this is simply that such intercourse interests the feelings, and affords an agreeable stimulus to several of the largest organs of the brain, conducing thus to the diffusion of a healthier and more abundant nervous energy over the system. The extent of good which a man of kindly feelings, sound sense, information, and a ready command of language, may do in this way, is much beyond what is generally believed; and if this holds in debility arising from general causes, in which the nervous system is affected not exclusively, but only as a part of the body, it must hold far more in nervous debility, and in nervous disease; for then the moral management is truly the medical remedy—administered, how-

ever, by the physician, and not by the apothecary, by the friend, and not by the callous attendant."

Dr. Andrew Combe's "Principles of Physiology."

THE UNITY OF OUR ORGANISATION.

"HUNTER was certainly no specialist. He strove earnestly to get an insight into that principle of unity which is the great characteristic of human organisation; that principle stood before Hunter as a principle of self-preservation, in which he seems to have recognised the essential dependence of the different parts upon each other; that condition which we express when,as in common language, we call man an 'individual.'"

Sir William Gull's Hunterian Oration.

OVERWORK.

"OVERWORK reduces the nervous power, and thereby strikes at the very root of the healthy status."

Dr. Richard Quain "On the Causes of Disease."

SELF-REGULATION.

"One of the most important rules for the preservation of health is ourselves to regulate in a proper manner the alvine evacuations, and not fly for a doctor the moment the stomach is a little disordered, but have recourse to regimen and diet, which will seldom fail to set it to rights."

Joel Pinney's "Code of Health and Long Life."

THE GRAND OBJECT OF MEDICINE.

"It has been too general to disregard altogether the important principle that 'the relief of irritation is the great object of medicine;' and it appears evident that in endeavouring to remove supposed disease of the liver, our violent and deleterious measures have greatly multiplied real disorder and weakness of the digestive canal."

Dr. T. J. Graham's "Treatise on Indigestion."

WEAR AND TEAR.

"THERE is a condition, or state of body and mind, intermediate between that of sickness and health, but much nearer the former than the latter, to which I am unable to give a satisfactory name. It is daily and hourly felt by tens of thousands in this Metropolis, and throughout the Empire; but I do not know that it has ever been described . . . . It is that *wear* and *tear* of the living machine, mental and corporeal, which results from over-strenuous labour or exertion of the intellectual faculties, rather than of the corporeal powers, conducted in anxiety of mind and in bad air. It bears some analogy to the state of a ship which, though still seaworthy, exhibits the effects of a tempestuous voyage, and indicates the propriety of recaulking the seams and over hauling the rigging. It might be compared to the condition of the wheels of a carriage, when the tyres begin to moderate their close embrace of the wood-work, and require turning. Lastly, it bears no very remote similitude to

the strings of a harp, when they get relaxed by a long series of vibrations, and demand bracing up.

"This 'wear and tear complaint' (if the designation be allowed), is almost peculiar to England. And why should it predominate in London so much more than in Paris? The reason is obvious. In London, business is almost the only pleasure—in Paris, pleasure is almost the only business. In fact, the same cause which produces the *wear* and *tear* malady, namely, hard work, or rather over-exertion, is that which makes our fields better cultivated, our houses better furnished, our villas more numerous, our cottons and our cutlery better manufactured, our machinery more effective, our merchants more rich, and our taxes more heavy than in France or Italy.

"If we compare the Boulevards, the Cafés, the jardins, the promenades of Paris, with corresponding situations in and around the British Metropolis, we shall be forced to acknowledge that it is nearly 'all work and no play' with John Bull during six days of the week, and *vice versâ* with his Gallic

neighbours. Does this 'wear and tear' tell at last upon John's constitution, intellectual and corporeal? I do not speak of the mere labour of the body. The fatigue induced by the hardest day's toil may be dissipated by 'tired Nature's sweet restorer, balmy sleep,' but not so the fatigue of the mind. Thought and care cannot be discontinued or cast off when we please, like exercise. The head may be laid on the pillow, but a chaos of ideas will infest the over-worked brain, and either prevent our slumbers, or render them a series of feverish, tumultuous, or distressing dreams, from which we rise more languid than when we lie down.

"But, it will be asked, can this apply to the immense mass of seasoners and sojourners in Babylon, who have nothing to think of but pleasure or dissipation—who remain as torpid as the owl while the light of Heaven is on the earth, and flutter in foul air while all other created beings are asleep? Yes. They, too, experience the 'wear and tear' of high civilisation fully as much as those whose intellectual and corporeal powers are worn down and expended in the most useful as well

as the most honourable avocations. It would be a very unequal distribution of justice were it otherwise ! "

Dr. James Johnson [*A very distinguished and successful practitioner of the last generation.*]

REMEDIES MORAL AND PHYSICAL.

"THE nervous system and digestive organs act and re-act upon each other with surprising force and rapidity. The intelligence of a severe loss, or the occurrence of an unexpected calamity will instantaneously annihilate the appetite, suspend the process of digestion, and allow the contents of the stomach and bowels to run into all kinds of decomposition and fermentation. A piece of agreeable information, on the contrary, will recall the inclination for food, and quickly set all the digestive machine again in regular motion. Now it is quite evident, that in proportion as men accumulate in large societies, those events and circumstances which tend, in a thousand different ways, to disquiet the mind, ruffle the temper and excite the passions, multiply in an increasing

ratio. Compare the whistling plough-boy with the calculating stock-broker; the shepherd on the mountains with the merchant in the city; the village magistrate with the prime minister. Compare the state of their minds, and the state of their digestive organs, and you will find a corresponding contrast in both. Indeed, I firmly believe that the mental perturbations of a *civic life* cause, upon the whole, more derangement of *function*, and ultimately of structure, in the stomach, liver, and alimentary canal, than all the other agents which we have been hitherto investigating. This is a subject deserving the utmost attention of all classes in civic society, as well as of the medical practitioner, whose prime object should be to ascertain the real source of a disease; for this discovery gives him infinite advantages in the mode of removing it.

"Of all the *digestive* organs, the liver suffers most in this way. This I know from long and painful experience in my own person, as well as observation on others, both in this country and in tropical regions. Indeed, I have ascertained that many of the depressing

passions will instantaneously spasm the mouths of the biliary ducts, when a regurgiation of bile takes place into the system at large, tinging the eye yellow, and overcasting the eye with the most gloomy anticipations, and indescribable despondency.

"It is a curious but undoubted fact, that the different mental emotions, or passions, even of the same class, produce different effects on the organs of digestion, and especially on the biliary secretion. This is so strikingly the case, that by examining the morbid conditions of these organs, I have often guessed the real origin of them; and, on the other hand, by being told the malady of the mind, I have stated without enquiry the corporeal symptoms in the digestive viscera. The effects of anger, for instance, are very different from those of grief. The *former* will often increase, and render acrid the biliary and gastric secretions, producing irritation all along the line of the bowels. The *latter*, on the contrary, will diminish the same secretions, and often leave the alimentary canal completely torpid. Corresponding differences are seen to result from love, fear,

jealousy, inordinate ambition, envy, &c., and the corporeal effects require an appropriate modification of treatment, a circumstance that is too much overlooked.

"Study and deep thought, not only among the literary, but among the professional, mechanical, and manufacturing classes of society, exert a most powerful and deleterious effect on the digestive organs, by drawing the vital energy and circulation to the brain and nervous system, and robbing the lower viscera of their due share of these important principles.

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"The remedies here are partly moral and partly physical. The nature of the moral causes must be explained to the patient; though advice in respect to the passions, or mental emotions, has seldom much effect. It is fortunate, however, that in no instance is the efficacy of well-directed remedies more conspicuous than in derangements of the biliary and digestive organs resulting from mental perturbations and anxieties. Indeed, it is astonishing how easily not only these derangements themselves, but even the causes

that produced them, may be relieved or removed by a few simple remedies, when the real *seat* of the corporeal disorder is ascertained by accurate and careful examination of the symptoms and phenomena."

"*The Influence of Civic Life &c.*" *By Dr. James Johnson.*

BE WATCHFUL IN TIME!

"PEOPLE overlook the difference in chronic and acute ailments, and are apt to wonder that a severe disease like inflammation should run its course in a few days, while dyspeptic and nervous maladies require months for their cure. But their wonder would be diminished by attending to the fact that the one generally dates its rise from a strong cause applied within perhaps a few hours or days, while the others are *the slow and gradual results of months or years of previous anxiety, or neglect of dietetic rules and exercise, during which the ailment was maturing unnoticed and unsuspected.* Had the real state of the matter been early perceived, and the causes been removed, the dyspeptic and nervous invalids would have

regained health and serenity with comparatively little delay and suffering. In such cases, Nature kindly allows some latitude of action free of serious penalty, as if on purpose to protect us from being hurt by such occasional exposure as we are necessarily subjected to by the ordinary vicissitudes of life; but it is always on condition of returning to obedience as soon as the necessity is over. If we presume on the indulgence being permanent, the evil will accumulate and health be destroyed, but if we return in time to the right path, little inconvenience will ensue. When, however, the injurious influences are more energetic, equal latitude of exposure is obviously incompatible with safety. Were we *then* unconscious of pain, our organs might be irrecoverably altered by disease before we took the alarm, and it is therefore the purest benevolence to attach immediate suffering to these urgent cases, in order to ensure that instant attention which alone can stay the rapid progress of disease.

"In chronic or slowly-arising ailments, then, the separation of the effect from its cause is apparent only, not real; and in

practice it is essential to keep this in mind. A fit of insanity, for example, is often said to have come on *without any cause*, when, on examination, causes can be easily traced, operating through many months, only not of so violent a nature as to have at once disordered the mind. The like is true in almost all those slow and insidious illnesses which so often baffle our best efforts; and although we cannot always discover their true origin, it is clear that we shall ultimately succeed much better if we believe them to have causes which *may* be found out, than if we regard them as mysteries which no amount of study or attention can ever enable us to explain.

"It is this apparent but unreal want of connection between the effect and its cause that has given rise to the variety of opinions entertained in regard to the qualities of the same agents, and has perhaps tended more than anything else to discourage rational regard to the means of preserving health, and led us to act habitually as if the effects of air, food, exercise and dress were mere matters of chance, subject to no fixed rule, and therefore

little worth attending to, except in obviously extreme cases, and in the cure of disease. But were the generality of intelligent persons better acquainted with the functions of the human body, and their laws, many of these anomalies in practice would disappear; the sources of much suffering would be dried up, and the happiness of the community be essentially promoted. Medical men would no longer be consulted so exclusively for the *cure* of disease, but would also be called on to advise regarding the best means of strengthening the constitution from an early age against any accidental or hereditary susceptibility which might exist. More attention would be paid to the *preservation* of health than is at present practicable, and the medical man would then be able to advise with increased effect, because he would be comparatively well understood, and his counsel, in so far as it was based on accurate observation and a right application of principles, would be perceived to be, not a mere human opinion, but an exposition of the will of a beneficent Creator. It would therefore be felt to carry an authority to which, if viewed as the mere

dictum of a fallible fellow-creature, it could never be considered as entitled.

"Even as regards recovery from disease, the importance of keeping up a habitually good state of health can scarcely be over-rated, because the state of the constitution at the time of the attack has a marked influence on the result."

Dr. Andrew Combe's "Principles of Physiology."

THE POWER OF THE SOUL OVER THE BODY.

"MENTAL anxiety constitutes a cause of dyspepsia which . . . is a far more efficient agent in producing gastric derangement; and one which sometimes renders the physician as powerless to minister to a dyspeptic stomach as he would be to 'a mind diseased,' in the Shakespearian sense. How closely all the phenomena of digestion are connected with the mental states is a matter of common experience; the rice which the Hindoo criminal is unable to moisten with saliva even to avoid detection; the destruction of appetite by bad (or even by good) news;

nay, our very forms of speech, which, with little exaggeration, represents a person as 'sick' of any person, thing or topic—all of these matters of every-day experience conclusively show how the chemistry of the stomach is subjected to the least material and palpable agents of our life, to that world of thought and emotion which works within every one of us. And, indeed, there is little need for surprise at this fact. The most zealous morbid anatomist can scarcely doubt that mere variations in the mind sometimes weaken, decay, and even destroy life, without bringing about specific or traceable lesions of organs."

William Brinton, M.D., F.R.S., on "The Diseases of the Stomach."

THE CONNECTION BETWEEN INDIGESTION, GOUT AND RHEUMATISM.

"DIGESTIVE derangement has generally, perhaps always, an important share in the first appearance of gout and rheumatism, in those persons subject to that disease; and the hereditary disposition to these maladies, which children derive from parents, does not consist in any peculiar constitution of the blood, of the cartilaginous parts and synovial membranes, in which those diseases are supposed to have their origin or seat, but in a vice of the digestive organs, which occasions the gouty and rheumatic affections of those parts. But the parts affected by these diseases seem, after a time, to assume a morbid action, or at least a morbid aptitude, in some measure independent of the digestive organs;* and we find that when the morbid action declares itself in the joints, muscles, or extremities, the stomachic processes are always simul-

* In some the disposition to gout is so great that it appears without being preceded by symptoms of derangement in the first passages.—*Dr. Philip on "Indigestion."*

taneously deranged. It may still be disputed whether digestive disorder may not be the primary cause, and I admit the matter involves difficulty. Acute rheumatism, however, is often suddenly induced by cold, the stomach being healthy; and then the stomach is involved. As regards gout, although some vice in the digestive organs, and in the assimilative functions, seems to be the first in the chain of morbid symptoms which issue in gout, yet afterwards the cause of the disease seems to lie more in the constitution of the blood, and irritable and easily exasperated state of the nervous power; which, perhaps, produce simultaneously the stomachic derangement and the local gouty pains; or, granting that the stomachic derangement precedes the fit of gout, the former is itself but an effect of an ulterior cause, to wit, that vitiated constitution of the blood and that irritable state of the nervous power to which I refer.

"This much is certain, that the most acute, dreadful, and dangerous of all forms of dyspepsia may be occasioned by gout suddenly migrating from its usual seats to the stomach. This form ought, perhaps, to be

put down as a form of primary indigestion, from the common forms of which it is, however, distinguished by important differences, which induce me to place it here.

In short, disease existing in any part or organ, generally, more or less, affects morbidly the digestive organs. Thus, structural changes in the lungs often notably enfeeble the stomach. Sometimes, however, when only the mucous membrane of the lungs is the seat of disease, and an excessive secretion, purulent or other, is going on from thence, the energy of the stomach is increased; the unusual drain from the lungs requiring a corresponding activity on the part of the digestive organs, in order to supply the loss in the fluids occasioned by that drain. In like manner, although debility, in general, is an indirect cause of indigestion, that species of it which accompanies convalescence from fever, &c., does not prevent that activity and energy of the stomach necessary to repair the diminution in the solids and fluids occasioned by the late disease. The apparent energy of the stomach in such cases is probably owing merely to active capillary absorption along

the digestive canal, stimulated by the instinctive want of the system, and the anxiety, if I may use the phrase, of the vital power to bring the individual invalid's body back to its constitutional bulk."

Dr. Robert Dick, on "Derangements, Primary and Reflex, of the Organs of Digestion."

GOUT AS A SAFETY-VALVE.

"AMONG the wonderful variety of means by which Nature counteracts the repletion resulting from too much and too rich food, stands gout. This, though a severe disease in itself, is yet an undoubted remedy or preventive of numerous other and more fatal ones. After a course of luxurious living, of longer or shorter duration, according to peculiarity of constitution, the human machine can no longer bear the rich tide of nutriment which daily flows through the interior organs without danger of some of its channels giving way, and suddenly snapping the thread of life, as happens in apoplexy, the bursting of blood-vessels, &c. Nature, alarmed, now adopts a severe but a salutary

measure. She generally gives notice of the approach of her operation by first deranging the function of the *stomach* for a few days, with occasional premonitory sensations in other parts of the body, as coldness of the feet, &c. Then the storm bursts. A paroxysm of pain and irritation is kindled up on some extreme part of the body, and the whole constitution is kept, during a time, in a feverish and restless condition, while a daily and critical discharge by the skin and kidneys reduces the system to a certain point compatible with health, when a calm ensues, the functions of the stomach and other organs resume their accustomed tone, and the luxurious advocate of civic society returns to the pleasures of the table with renovated vigour.

"Woe to the man who *rashly* interferes with, or *suddenly* checks this salutary process of Nature, whether by external or internal means! He who does so has little knowledge of the animal economy, or little concern for the future welfare of the patient. True it is that the operations of Nature, even when they are of a curative description, as they

almost always are, must frequently be restrained, regulated, or spurred on, and in this consists the great art of the physician. But when the pain and irritation of gout are not suffered to be *moderately* expended on some member at a distance from the vital centre, when a violent commotion is raised in the system by internal remedies, or when the inflammation is suddenly arrested by external cold, then, in all probability, will the irritation be transferred to some interior organ or tissue, and there manifest itself, at some future day, in the shape of a chronic disease, which may bid defiance to the powers of medicine. This consideration should

> 'make us rather bear the ills we have,
> Than fly to others that we know not of.'

"These, then, are the prominent evils which, in civic society as now constituted, flow from redundancy and richness of food, combined with sedentary habits."

"*The Influence of Civic Life and Sedentary Habits on Human Health.*" *By Dr. James Johnson.*

HINTS TO COMMERCIAL MEN.

"The continually increasing numbers who devote themselves to commercial pursuits, and the still larger numbers whom they influence as dependents as they grow in importance make the habits of the class a matter of serious social consideration.

"The commercial man measures his usefulness in the world by his success in rapidly accumulating honest wealth. Honesty therefore being presupposed, the most conscientious is always liable to the temptation of wishing to compress two days' work into one, so as to be rich in half the time taken by his neighbours.

"To speak of this as 'a struggle for life,' is silly; of those who labour hardest in our cities, there are very few who would not acknowledge that a small portion of their anxious toil would supply the daily needs of themselves and families. They are in reality egged on by ambitious rivalry, which uses for its purposes that insatiable hunger for hard work innate in the British breast. The haste

to be rich is most unwise, and not only defeats its own purpose by prematurely incapacitating the haster from further struggles, but, if it is successful, it robs middle life, or at least old age, of its occupation.

"A man whose unusual exertions have made him rich rapidly is sure to have been too much engrossed by his business to take an interest in other things. He may have kept himself as a duty acquainted with the pursuits and sympathies of his fellows, but he is incapable of making them the occupation of his thoughts. He is driven to look to the past only for the genuine interest of life. [Drive Slow !]

"Much more often the health suddenly breaks down before the desired object is attained, and the power is wanting to engage in other pursuits, to take the place of business which is perforce given up. The expenditure of strength in the hurry to grasp wealth has resulted only in weakness and poverty. It was a piece of shrewd advice administered by an old merchant to a young one : 'If you want to die rich, live as long as you can.'

"The most important rule for one engaged

in any business which involves headwork or responsibility is *to strictly confine his business* to its own times and places . . . . . The result of a neglect of this rule, the invariable end of bringing the counting-house into the dining-room and bed-room, is indigestion and sleeplessness."

Anon.

ABERNETHY'S ADVICE CONCERNING FOOD AND DIGESTION.

"It is a principal object of medicine to give strength and tranquillity to the system at large, which must have a beneficial influence on all its parts, and greatly promote the well-doing of every local disease. We cannot reasonably expect tranquillity of the nervous system while there is disorder of the digestive organs. As we can perceive no permanent source of strength but from the digestion of our food, it becomes important on this account that we should attend to its quantity, quality, and the periods of taking it, with a view to ensure its perfect digestion.

"First, with respect to quantity. There can be no advantage in putting more food into

the stomach than it is competent to digest, for the surplus can never afford nourishment to the body; on the contrary, it will be productive of various evils. Being in a warm and moist place, the undigested food will undergo those chemical changes natural to dead vegetable and animal matter; the vegetable food will ferment and become acid, the animal will grow rancid and putrid. This is only rendered evident occasionally, when a disordered stomach rejects some of its contents; then the teeth are roughened and set on edge by the corrosive qualities of the acid, and the throat feels burnt by the acrimony of the rancid oil. These effects, though occasionally made apparent, must constantly take place, unless by the digestive powers of the stomach the food is converted into a new substance which is not liable to these chemical changes. Such new and irritating compounds may not indeed materially injure a healthy stomach, but cannot fail to be detrimental to one that is weak and irritable, as well as to the whole tract of the alimentary canal, and thus maintain and aggravate its disorder. Part of the food thus changed will be imbibed

from the bowels, and render the blood impure, from which there is no outlet for various kinds of matter but through the kidneys, and this may prove a cause of foul urine, as well as of the presence of many substances in that fluid not natural to it, and be productive of serious diseases in the urinary organs. Observing the evil resulting from undigested aliment, we surely ought cautiously to guard against them by proportioning the quantity of our food to the digestive powers. Nature seems to have formed animals to live and enjoy health upon a scanty and precarious supply of food, but man in civilised society, having food always at command, and finding gratification from its taste, and a temporary hilarity and energy result from the excitement of his stomach, which he can at pleasure produce, eats and drinks an enormous deal more than is necessary for his wants and welfare; he fills his stomach and bowels with food which actually putrefies in those organs; he fills also his blood-vessels till he oppresses them, and induces diseases in them as well as in his heart. If his digestion be imperfect, he fills them with unassimilated substances,

from which nutriment cannot be drawn, and which must be injurious. In proportion as the powers of the stomach are weak, so ought we to diminish the quantity of our food, and take care that it should be as nutritive and easy of digestion as possible. By adopting an abstinent plan of diet, with respect to the quantity of our food, even to a degree that produces a sensation of want in the system, we do that which is most likely to create appetite and increase the powers of digestion. In how great a degree want effects these objects is evident in those who have been obliged to fast from necessity, or have been much reduced by hæmorrhage.

"Secondly. As to quality: It is not my intention to discuss the question as to the nature of the food proper for mankind. When the stomach is weak, it seems particularly necessary that it should be nutritive and easy of digestion. I may further observe that its qualities should be adapted to the feelings of the stomach. In proof of this proposition numerous instances might be mentioned of apparently unfit substances agreeing with the stomach, being digested and even quieting an

irritable state of stomach, merely because they were suitable to its feelings. Instances might also be mentioned of changes in diet producing a tranquil and healthy state of stomach in cases where medicines had been tried in vain. Neither can such occurrences excite surprise; for as digestion and the consequent tranquillity of the stomach depends on a proper quantity of healthy juices being secreted and commixed with the food, such secretions are likely to be produced by whatever agreeably excites it, and obstructed by whatever has a contrary tendency.

"Thirdly. As to the times of taking food: It is evidently the intention of Nature that we should put into the stomach a certain portion of food, the excitement of which producing a secretion of gastric fluid, by its action becomes digested. This office of the stomach being effected, it should be left in a state of repose till its powers are restored and accumulated, and this return of energy would in health be denoted by a return of appetite. It is probable that three hours may elapse in health before the digestion of a moderate meal is effected, so that the stomach is empty

and in a state of repose. It is therefore reasonable to allot the same portion of time to the same purpose when the organ is disordered, whilst we have diminished the quantity of our food in order to proportion it to the diminished powers of the organ; yet, instead of pursuing this rational plan of diet, many persons are taking food every third or fourth hour, pleading in excuse for such conduct that they cannot do without it. The truth is, that when the stomach is disordered, the exertion of digesting a single meal after its excitement and efforts have ceased, is productive of sensations of languor, sinking and inquietude, which ought to be calmed or counteracted by medicines, and not by food, for a second meal cannot be digested in this state of the stomach. We also often tease and disorder our stomachs by fasting for too long a period; and when we have thus brought on what I may call a discontented state of the organ, unfitting it for its office, we sit to a meal and fill it to its utmost, regardless of its powers or its feelings. The rules then for diet may be thus summarily expressed. We should

proportion the quantity of food to the powers of the stomach, adapt its quality to the feelings of the organ, and take it at regular intervals of six or seven hours thrice during the day. It would be well if the public would follow the advice of Mr. Addison, given in the 'Spectator,' of reading the writings of L. Cornaro, who having naturally a weak constitution, which he seemed to have ruined by intemperance, so that he was expected to die at the age of thirty-five, did at that period adopt a strict regimen, allowing himself only twelve ounces of food daily.* By this plan of diet he lived to more than one hundred years in a tranquil, cheerful and energetic

* I could relate many instances of persons who were much emaciated, some of whom were of considerable stature, becoming muscular and fat upon four ounces of the most nourishing and easily digestible food taken three times a day. A patient lately gave me the following account of his own proceeding, with respect to diet. He said, 'When thou toldest me to weigh my food, I did not tell thee that I was in the habit of weighing myself, and that I had lost 14lbs. weight per month, for many months before I saw thee. By following thine advice I have got rid of what thou didst consider as a very formidable local malady; and upon thy allowance of food, I have regained

state of mind. Cornaro found that as the powers of his stomach declined with the powers of life in general, it was necessary he should diminish the quantity of his food, and by so doing he retained to the last the feelings of health.*

"Everything which we take into the stomach, except food, may be considered in two points of view; either as a diluent or a medicine. Water is the only diluent, and we are in the habit of mixing alimentary matter and stimulants with it. Diluents probably ought not to be taken during or immediately after our meals, since they would be likely to render the juices of the stomach less efficacious in the digestion of our food. Hunger and

my flesh and feel as competent to exertion as formerly, though I am not indeed so fat as I used to be. I own to thee that as I got better I thought thy allowance was very scanty, and being strongly tempted to take more food, I did so; but I continued in the practice of weighing myself and found that I regularly lost weight upon an increased quantity of food; wherefore I returned to that which was prescribed to me.'"

* An interesting paper from "The Saturday Review" on Cornaro and his regimen is given later in the volume.

thirst seem to be incompatible sensations: a hungry animal would eat to satiety, and the stimulus of the food would bring on a discharge of the juices of the stomach, which have the power of digesting the food; nor is it probable that the sensation of thirst would be experienced till this operation of the stomach is effected. If the sensation of thirst then occurred, water would appease it without frustrating the digestive functions, and being absorbed in the alimentary canal, a certain portion of it would be furnished to the blood, and the surplus would pass off from the skin, lungs and kidneys. Animals also rest during the digestion of their food, and drink when this is accomplished; and it would be right for patients to imitate this example. How much exertion of body or mind is capable of impeding digestion, is shown in the fourth lecture at the College. Diluents being requisite, and in many cases particularly useful, toast and water, mint and balm tea, light ginger tea (when the stomach requires a stimulus), marsh mallow, and linseed tea (when mucilage is likely to be useful), China tea (when it agrees with the

stomach), may be drank three or more hours after each meal, during the night, or early in the morning; for we should take diluents at such times as not to let fluids be in the stomach when the food is received, nor during its digestion. By drinking at proper times, thirst will be prevented at improper ones, and we shall have no temptation to fill the stomach with liquids when we have taken our food; thus setting it afloat, and diluting the juices of the stomach, upon the agency of which its digestion entirely depends.

"All stimulants must be regarded as medicines; vinous liquors are of this class, and being suitable to the feelings of the stomach, are in many cases very useful, yet they are very liable quickly to pass into a state of acetous fermentation, and to promote that change in the vegetable food contained in a disordered stomach, and thus produce a strong and injurious acid. The rule for taking vinous liquors in persons to whom habit has rendered them necessary, may be thus briefly stated. They should not take them during their meals, lest the temporary excitement they produce should induce them to

take more food than the powers of the stomach are capable of digesting, but afterwards they may be allowed so much of them as may be required to induce agreeable feelings, or to express the fact more clearly, as is necessary to prevent those uncomfortable sensations which the want of them may occasion; and it may be added, the less they take the better. People deceive themselves on this point. A disordered stomach will feel uncomfortable after eating; fermented liquors remove for a time the unpleasant sensations. Potion after potion is swallowed on this account, often without producing permanent tranquillity, and much to the injury of the stomach. Wine-drinkers do not drink wine after every meal, which proves that wine is not necessary to their digestion; and many who confided in this belief have been convinced of their error, by leaving it off, and finding that they digested their food as well when deprived of it, and that such privation greatly contributed to their eventual restoration to health. When stimulants seem requisite, and fermented liquors run into the acetous fermentation in

the stomach, spicy and aromatic vegetables should be substituted, such as ginger, pepper, mustard, &c.

"Stomachic medicines are given to strengthen a weak stomach, to tranquillise an irritable one, or to counteract some morbid peculiarity in the feelings and actions of that organ. There is a time when stomachic medicines seem to be particularly required. About three hours after a meal, when the stomach is exhausted by the labour of digestion, when its morbid propensities are increased by the languor consequent to fatigue; at this period, when persons are in the habit, through ignorance, of taking food to appease their distress, they ought, as has been said, to take these kinds of medicines.

"Even our food however must be considered as exerting a medicinal influence in disorders of the stomach. When that organ is irritable, a vegetable diet and abstinence from fermented liquors may tend to tranquillise it. On the contrary, when it is weak as well as irritable, that aliment which is most readily digested is to be preferred, and cordials are sometimes beneficial. The effects of food and medicine

can never be considered as resulting from their operation on the stomach solely, but from their conjoint influence upon it and the nervous system in general. Irritability of the stomach may arise from that of the brain, and unstimulating diet may tend to tranquillise the latter organ, and thereby alleviate the disorder of the former. On the contrary a more generous diet may, by exciting the nervous system, produce that degree of energy in its actions which invigorates the stomach, and tranquillises its disorder. It may further be observed in some cases, that the kind of medicines or diet which is serviceable to the stomach may aggravate the nervous disorder; and on the contrary, that those means which seem to tranquillise nervous irritation tend to diminish the powers of the stomach.

Vegetable diet-drinks appear to me very useful in tranquillising and correcting disorders of the stomach and bowels, for this is the manner in which they seem to be efficacious in the cure of local diseases. The vegetables prescribed in the different formulæ are so dissimilar, that we can scarcely suppose that they act specifically upon the local disease.

Even sweet wort has obtained considerable celebrity. When diet-drinks fail to correct the disorders of the digestive organs, they also fail to produce any amendment on local diseases. Such observations have induced me to believe that they have the utility, which I have ascribed to them, of tranquillising and correcting disorders of the stomach and bowels. It is allowable to form an opinion from such observations, though I am sensible of their invalidity as arguments to prove its truth.

"Whilst thus, on the one hand, by endeavouring exactly to proportion the quantity of food to the powers of digestion, by adopting an abstinent system of diet, and taking medicines suitable to the condition of the stomach, we endeavour to foster the powers and ensure the tranquillity of this important organ, we ought, on the other, most carefully to attend to the regulation of the action of the bowels, with a view to ensure their tranquillity, for we cannot expect that the stomach will be tranquil if the bowels be otherwise. To produce tranquillity of the bowels when they are in a disordered state, it is necessary that the

residue of the food be daily carried down and discharged from those organs; this is their natural function, and if they fail in its performance, they should be excited by appropriate medicines, yet without teasing them so as to induce what is ordinarily called purging. Purging occurring spontaneously, shows that the bowels are irritable, and the aqueous and other discharges which take place from them in that condition often relieves their irritability. When purging occurs in consequence of taking medicine, it shows that the bowels have been irritated, and have relieved themselves in their usual manner. Persons may be purged without having their bowels cleared of the fœcal matter which may be detained in them; we should therefore endeavour to ascertain what kind or combination of purgative medicines will excite a healthy action of the bowels, without teasing them or producing discharges from the organs themselves. The best mode of proportioning the degree of excitement to the end designed is to take a dose of a suitable medicine at night, but short of that which may prove irritating; if it fails sufficiently to excite the organs, a similar dose

may be taken in the morning; which also failing, it may be repeated at intervals during the day. The principle that should govern our conduct in the administration of purgatives, may be briefly stated, the excitement is to be repeated till the requisite action is induced, yet no single excitement being such as may prove an irritant to the organs.

"Purging medicines sometimes relieve unpleasant sensations; but they do not in general produce even this effect; and all active purges seem to me to increase disorder. It is natural to suppose that strong stimuli will aggravate the unhealthy condition of weak and irritable parts."

"*Surgical Observations on the Constitutional Origin and Treatment of Local Diseases.*" *By John Abernethy, M.D., F.R.S.*

ABERNETHY'S RULES.

"I HAVE generally explained to the patients the objects which I had in view in correcting disorders of the digestive organs, by saying that there are three things which I consider as right and necessary to the cure of disorder. First, that the stomach should thoroughly digest all food that is put into it. The patient, perceiving the necessity of obtaining this end, becomes attentive to his diet, and observes the effect which the quantity and quality of his food and medicines have upon his feelings, and the apparent powers of his stomach. Secondly, that the residue of the food should be daily discharged from the bowels: here, too, the patient, apprised of the design, notes what kind and dose of purgative medicine best effect the intention; and whether it answers better if taken at once or at intervals. Thirdly, that the secretion of bile should be right, both with respect to quantity and quality. In cases wherein the secretion of bile has been for a long time deficient or

faulty, I recommend, as I have said, unirritating and undebilitating doses of mercury to be taken every second or third night, till the stools become of the wet rhubarb colour; that is of a deep brown formed by the intensity of the yellow colour. This mode of exhibiting the medicine has at least the advantage of being innocent, and if months elapse before the object is accomplished, we cannot wonder at the tardiness of the cure when we consider the probable duration of the disorder, prior to our attempts to correct it. The patient is relieved in proportion as the end is accomplished, which feelingly induces him to persevere in such innocent measures. By thus engaging the co-operation of the patient, the practitioner will, in my opinion, derive considerable advantage in the treatment of the case.

"Whenever circumstances would permit, I have recommended the patients to take as much exercise as they could, short of producing fatigue; to live much in the open air; and, if possible, not to suffer their minds to be agitated by anxiety, or fatigued by exertion. The advantages of exercise in

nervous disorders, upon which those of the digestive organs in general so greatly depend, appear to me very striking. It were to be wished that we had some index to denote the strength and irritability of the nervous system, serving as the pulse does with regard to the sanguiferous organs. Perhaps the strength, agility and indefatigability of the muscles may be regarded as the surest evidence of energy of nervous power and bodily vigour. If this were granted, however, it would follow that many persons possessing great nervous power, have, nevertheless, great nervous irritability. Many persons who are extremely irritable and hypochondriacal, and are constantly obliged to take medicines to relieve their bowels whilst they lead an inactive life, no longer suffer from nervous irritation, or require aperient medicines, when they use exercise to a degree that would be excessive in ordinary constitutions. The inference which I draw from cases of this description is, that nervous tranquillity is restored in consequence of the superfluous energy being exhausted by its proper channels, the muscles. When, on the con-

trary, the nervous system is weak and irritable, exercise seems equally beneficial; but caution is here requisite as to the degree in which it should be taken. A weak and irritable patient may not be able to walk more than half-a-mile without nearly fainting with fatigue on the first day of the experiment; but by persevering in the effort, he will be able to undergo considerable muscular exertion without weariness. Does not this imply a considerable increase of bodily strength, and is not the acquisition of strength the chief desideratum in the cure of many disorders? The nervous irritability, also, when dependent on weakness alone, will proportionably diminish with its cause. In the latter case, the nervous energy seems to be augmented in consequence of our increasing the demand for it. I am induced to make these observations, from a belief that exercise is not employed as a medical agent to the extent that its efficacy seems to deserve; of its medical effects I entertain a high opinion: it is however right to direct patients with regard to its use, not to exert themselves for some time previous to a meal, nor for three

hours after. I would prescribe to my patients the following rules:—They should rise early when their powers have been refreshed by sleep, and actively exercise themselves in the open air till they felt a slight degree of fatigue; they should rest one hour, then breakfast, and rest three hours, in order that the energies of the constitution should be concentred in the work of digestion; then take active exercise again for two hours, rest one, then taking their dinner they should rest for three hours, exercise two, rest one, and take their third slight meal. I do not allow the state of the weather to be urged as an objection to the prosecution of measures so essential to health, since it is in the power of everyone to protect themselves from cold by clothing, and the exercise may be taken in a chamber with the windows thrown open, by walking actively backwards and forwards as sailors do on ship-board. I also caution patients against sleeping too much; waking from sleep indicates that the bodily powers are refreshed; many persons upon first waking feel alert and disposed to rise, when upon taking a second sleep they become

lethargic, can scarcely be awakened, and feel oppressed and indisposed to exertion for some time after they have risen. When the disorders which have been the subject of this paper, have been long continued, they do not admit of a speedy cure; hence attention to diet, air, exercise, and mental tranquillity, are more decidedly beneficial than medicines. Surgeons in London meet with frequent and convincing instances of the efficacy of pure air. Patients under the irritation of a local disease, who scarcely eat or sleep in town, recover their appetite, digestion, and sleep, so suddenly on their removal into the country, as to leave no room for doubting that the change of air has produced this beneficial alteration in their health. The whole of the plan of treatment which is here recommended is so simple, and apparently so efficient, that its power might reasonably be doubted did not facts attest its utility. I should not have thought it right to have thus related it in detail, but for the purpose of avoiding repetition, and also because it seemed right to state as explicitly as possible to the younger part of the pro-

fession what are the curative intentions in disorders of this nature."

> "*Surgical Observations on the Constitutional Origin and Treatment of Local Diseases.*" *By John Abernethy, M.D., F.R.S.*

ABERNETHY ON SYMPATHETIC AFFECTIONS.

"If it were to be ascertained that pulmonary irritation, which might of course produce pulmonary disease, sometimes arises from disorder of the digestive organs, it would be right to inquire farther, whether it produces such effects by the nervous disorders it occasions, and by its operation on the health in general, or by means of a more intimate sympathy existing between the pulmonary and digestive organs. I do not mean to insinuate by what has been said that pulmonary diseases do not arise orginally and idiopathically; but only to suggest that they may arise sympathetically, or in consequence of disorder of the digestive organs. The proportionate number of cases in which they originate in this manner can only be

determined by very extensive experience. That the stomach and bowels are disordered during the progress of phthisis, will, I conclude, be readily admitted; and that an attention to correct such disorder is requisite, must be acknowledged from what has been said relative to the influence of such treatment upon various local diseases.

"The actions of the heart seem to me also to become disordered from sympathy with the stomach. That palpitations, and feeble or intermitting actions of that organ arise from this cause is proved by their ceasing when the state of the stomach becomes changed. The palpitations that take place after eating, in cases where the heart is irritable, farther evince the sympathy which exists between these organs. Surgeons are occasionally consulted on palpitations of the heart, which the patients mistake for aneurisms. I have seen many instances where the great degree of palpitation led to a belief that some organic affection existed. This has ceased on an amendment of the general health, apparently arising from an amelioration of the state of the digestive organs, and the patients have continued

in perfect health. I have not collected any accurate narratives of the cases that I have seen ; none at least that I could properly present to the public as a proof of the fact. There is nothing however of which I am more perfectly convinced ; for I have felt it to be true in my own person. After considerable and unusual fatigue, I was seized with pain, and a sensation of coldness in the region of the stomach. I had no appetite, and the biliary secretion was suppressed. Whilst this disorder continued, which was for many weeks, my pulse intermitted very frequently, and I was distressed with hypochondriacal sensations. Upon an alteration in the state of the digestive organs, and a renewal of the biliary secretions, which happened very suddenly after taking five grains of the pil. hydrarg., my pulse became perfectly regular and my mind tranquil.

"The observations which I have made in surgical cases, lead me also to attribute many hæmorrhages, and particularly those from the nose, to a sympathetic affection of the heart and arteries, excited by disorder of the digestive organs.

"If such a state of the system in general as I have described, and which is manifested by circumstances denoting the digestive organs to be in an unhealthy state and the nervous system to be likewise disordered, may in some cases, cause various local diseases of parts not essential to life, the care of which custom has consigned to the surgeon, and may, in other instances, produce disorders of organs essential to our existence, the care of which is allotted to the physician, the subject must be allowed to be of the highest importance. Of late, indeed, I have been inclined to consider these circumstances as the cause of the complicated diseases which are met with in man so much more frequently than in animals. In man, the brain is more sensitive, and liable to be disordered by mental affections. In man the digestive organs are liable to be disordered by stimulating and unnatural diet. Sedentary habits and impure air co-operate to aggravate these disorders. The disorders of the brain and digestive organs mutually increase each other; and thus a state of constitution arises, which is productive of the most

general and complex diseases. But even these do not seem to me to be the most calamitous terminations of such cases. The disorder of the sensorium, excited and aggravated by the means which have been described, frequently affects the mind. The operations of the intellect become enfeebled, perplexed and perverted; the temper and disposition irritable, unbenevolent and desponding; the moral character and conduct appears even liable to be affected by these circumstances. The individual in this case is not the only sufferer, but the evil extends to his connections and to society. The subject, therefore, appears to me of such importance, that no apology need be offered for this imperfect attempt to place it under general contemplation.

"The ancients, who formed their judgment of the nature of disorders by observing the excretions, denominated an irritable and desponding state of mind Hypochondriasis; and when a more fixed and irrational dejection took place, they deemed it an atrabiliary disorder, and called it Melancholia. There can be no doubt of the correctness of their observations, for if the disorder began in the

nervous system it would generally produce and become aggravated by that disorder of the digestive organs from which they denominated it."

"*Surgical Observations: Part the Second.*" *By J. Abernethy, M.D., F.R.S.*

DR. JOHNSON'S COMMENTS ON ABERNETHY'S SYSTEM.

"ALTHOUGH there are some whimsical opinions in the rules which Mr. Abernethy has laid down, respecting diet and medicine, yet, upon the whole, this celebrated though eccentric physiologist has done a great deal of good by his doctrines, not entirely unmixed, perhaps, with some harm. The following short summary of his doctrines will be found to corroborate, as far as they go, some of the positions which I have endeavoured to maintain.

"Mr. A., believing the stomach and other organs of digestion, when disordered, to be in a state of 'weakness and of irritability,' has for his object 'to diminish the former and allay the latter.' Believing also that the

secretions in these cases are 'either deficient in quantity or depraved in quality,' he endeavours to excite, by means of medicine, 'more copious or healthy secretions.' As the strength of our body depends on the nutriment we derive from our food, so we must attend to the quantity, quality, and times of taking food and drink. In respect to *quantity*, Mr. A. justly observes that 'there can be no advantage in putting more food into the stomach than it is competent to digest, for the surplus can never afford nourishment to the body; on the contrary, it will be productive of various evils.' Mr. A., in short, avers that:

"'Man in civilized life, having food always at command, and finding gratification from its taste, and a temporary hilarity and energy result from the excitement of his stomach, which he can at pleasure produce, *eats and drinks an enormous deal more than is* necessary for his wants or welfare. He fills his stomach and bowels with food which actually putrefies in those organs; he also fills his blood-vessels till he oppresses them, and induces diseases in them as well as in his heart.'

"After this appalling picture of the results of repletion or intemperance, Mr. A. lays it down as an axiom that 'in proportion as the powers of the stomach are weak, so ought we to diminish the quantity of our food,' taking care, however, that it should be nutritive and easy of digestion. By adopting such an abstemious plan of diet, says Mr. A., as may produce even 'a sensation of want in the system, we do that which is most likely to create appetite and increase the power of digestion.'

"In respect to *quality*, Mr. A. observes that '*this* should be adapted to the feelings of the stomach.' Some substances that would *à priori* be considered indigestible will agree well even with a dyspeptic stomach. We must, therefore, attend to the peculiarities of individuals and to the instincts of Nature. Regarding the periods of taking food, Mr. A. certainly appears rather eccentric. It is probable, he observes, that three hours may elapse in health before the digestion of a moderate meal is effected, and the same time, at least, should be allowed when the stomach is disordered. Another three hours should be

dedicated to the repose of the stomach. He considers that much harm is done by eating too often and fasting too long. He says he could relate many instances of persons who were much emaciated, some of whom were of considerable stature, 'becoming muscular and fat upon four ounces of the most nourishing and easily digested food taken three times a day.'

"Water is considered by Mr. A. as the only real diluent. Diluents, he thinks, should not be taken during or immediately after our meals, since they render the juices of the stomach less efficacious in the digestion of our food. Hunger and thirst, he observes, are incompatible sensations, and were we in a state of nature, thirst would probably not occur till some time after taking food, when drink would not prove injurious. Rest he considers necessary after food, as exertion disturbs the process of digestion. As diluents he recommends toast-water, mint or balm tea, light ginger tea (when the stomach requires a stimulus), linseed tea, or common tea, 'three or more hours after each meal, during the night or early in the morning.' In short, he thinks

we should not take fluids while the process of digestion is going on. Vinous liquors he regards as stimulant medicines, and are in many cases useful. But they are very liable to turn acid and prove injurious. They should not be taken, he says, during meals, 'lest the temporary excitement they produce should induce them to take more food than the powers of the stomach are capable of digesting; but afterwards they may be allowed so much of them as may be required to induce agreeable feelings,' or rather, 'to prevent those uncomfortable sensations which the want of them may occasion, and it may be added that the less of them the better.'

"So much for dietetics. In respect to medicines, Mr. A. observes that 'purging medicines sometimes relieve unpleasant sensations; but they do not in general produce even this effect; and all active purges seem to me to increase disorder. It is natural to suppose that strong stimuli will aggravate the unhealthy condition of weak and irritable parts.' In order to correct the vitiated state of the biliary secretion Mr. A. recommends the blue-pill, generally in five-grain doses,

every second night. 'The relief which arises from the increase or correction of the biliary secretion, in a great number of these cases, shows how much the liver is concerned in causing or aggravating the symptoms in these diseases.' He has known patients who had voided 'nothing but black stools for some months, discharge fæces of a light yellow colour, denoting a healthy but deficient secretion of bile, immediately upon taking such small doses of mercury.' Mr. A. remarks also that 'the effect of this change on the constitution and spirits has been surprisingly great, *though the state of the stomach did not appear to be altered.*' Mr. Abernethy is a strong advocate for exercise in the open air. 'Many people who are extremely irritable and hypochondriacal, and are constantly obliged to take medicine to regulate their bowels, whilst they lead an inactive life, no longer suffer from nervous irritation, or require aperient medicines, when they use exercise to a degree that would be excessive in ordinary constitutions.' The following is a recapitulation of his own words.

"'I would prescribe to my patients the

following rules: They should rise early when their powers have been refreshed by sleep, and actively exercise themselves in the open air till they felt a slight degree of fatigue; they should rest one hour, then breakfast, and rest three hours, in order that the energies of the constitution should be concentred in the work of digestion; then take active exercise again for two hours, rest one; then, taking their dinner, they should rest for three hours, exercise two, rest one, and take their third slight meal.'

"He does not allow bad weather to prevent the regular quantum of exercise, 'since it is in the power of every one to protect themselves from cold by clothing, and the exercise may be taken in a chamber, with the windows thrown open, by walking actively backwards and forwards, as sailors do on ship-board.'

"Such are the celebrated dietetics and hygiene of this talented and eccentric surgeon, as developed at page 72 and following sheet of his work, so often quoted by others, so often recommended by himself.

"Mr. A. remarks at the said page 72 as follows: 'I do not feel altogether competent

to give full directions relative to the subject; because *I have never attended to medical cases with that degree of observation which would lead me properly to appreciate the efficacy of different medicines*, when administered either in their simple or compounded forms.' Notwithstanding that nine in ten of Mr. Abernethy's morning patients, for twenty-five years past, have been purely medical cases without any local complaint whatever, yet I believe the above passage to be literally true. Mr. Abernethy does not appear to have profited by the immense field of observation which lay before him; and nearly the same plan of treatment is, therefore, laid down for all patients indiscriminately—the same in the ninth as in the first edition of the work.

The principles of his work are, however, less objectionable than the practice. Mr. A. has entirely overlooked that large and preponderating proportion of cases, where the irritability of the gastric and intestinal nerves is unconnected with, or, at all events, not dependent on, the faulty state of the hepatic and other secretions. In these cases the five grains of blue-pill at night, and the salts and

senna every other morning, will ultimately increase the malady. Indeed, in a note to the ninth edition, published in the year 1827, Mr. A. informs us that he has perused Dr. Hamilton's work on purgative medicines, and considers himself very fortunate in finding the coincidence of practice between Dr. H. and himself. Nothing is more certain, however, than that Dr. Hamilton's purgative plan is destruction to the great majority of dyspeptic patients, as thousands and thousands have found to their cost. As the practice, then, of Mr. Abernethy is founded almost exclusively on the idea of disordered secretions and loaded bowels, so it leaves entirely out of view the important indications of counter-irritation and local depletion in affections of the stomach and bowels. As far as I can judge of Mr. A.'s practice, too, the tonic plan, so beneficial after abstemiousness and alterative medicines, is very inefficiently employed. The various causes of the disease, and the manner in which the mind acts on the body, and the body on the mind, are not at all investigated; which is the more to be regretted, since no other man ever had so wide a field for

observation—or probably ever will have in future. I should not have ventured to make this remark on Mr. Abernethy's sins of omission, had he not fully and candidly acknowledged them himself in the above passage. He has profited, in one sense of the word, by the innumerable patients who have portrayed their disorders before him; but he has still left for future observers the toil and the difficulties of investigation. 'The subject,' says he, 'is so important, that the public would be highly indebted to any practitioner who would point out the varieties of these diseases, and the appropriate modes of cure.'

"But in pointing out what I conceive to be the defects in Mr. Abernethy's *medicinal* treatment of dyspeptic complaints, I can have no hesitation in acknowledging the benefit which he has conferred on the profession and on society at large, by the able manner in which he has advocated the good effect of temperance, and delineated the many evil consequences that flow from the ingurgitation of too much food and drink.

"Latterly this distinguished surgeon appears to have been somewhat less inclined to

recommend his book to the patient, in addition to the prescription. He has, therefore, printed directions for diet, which, of course, like the bed of Procrustes, *must fit* the patient. The following is the printed formula or dietary.

"'THE RULES OF DIET IN DYSPEPTIC CASES, may be thus stated in an abbreviated form :—

"'1. The food should be of the most nourishing and readily digestible kind.

"'2. The quantity taken at a meal should not be more than it is probable the stomach will perfectly digest.

"'3. The meals should be taken at regular periods of six hours, three times a day ; and when the stomach can digest very little food, they may be taken four times in the twenty-four hours.

"'4. Every meal of food should be reduced to minute sub-divisions and pulpy consistence by mastication, or otherwise, and suffered to remain in the stomach unmixed with liquids, in expectation

that it will be dissolved by the juices of the stomach.

"'5. Drink should be taken four hours after each meal, allowing that time for its perfect digestion, and two hours for the conveyance of liquids from the stomach before the pulpy food be again received.

"'6. The drink then taken should not contain fermentable substances. It should be boiled water, which may be flavoured with toast, or prevented from producing a qualmish state of stomach by pouring it upon a trivial quantity of powdered ginger.

"'It is not meant by these rules to debar persons from taking a small teacupful of liquid with breakfast, or a glass or two of wine with dinner, if it seem to promote the digestion of their food.'"

"*Essay on Indigestion.*" *By James Johnson, M.D.*

IRRITABILITY.

"The hurry and urgency under which much of our work is done, the anxiety inseparable from a highly artificial condition of society, life in cities whose roar is ceaseless as that of the sea, and where the most amiable of men get the smallest amount of repose, toil in business too severe or unremitting, even the ardent endeavour to benefit society in different ways, the most diverse pursuits followed with excess of zeal, bring men to the same condition. A total abstinence of occupation is often seen to be nearly as injurious. Without organic disease, or any very strong predisposition to it, the minute circulation of the brain is disturbed and its nutrition slightly altered; business becomes a trouble, society ceases to please, momentary confusion comes at times over the patient; there is a little loss of memory, generally for trifles, rather resolving itself into a preoccupied state of mind, which allows small occurrences to go by with none or inadequate attention . . . . Physicial courage may be diminished, the

patient is timid in the crowded street, or is afraid of even moderate heights; or his moral courage fails, he has unreasonable fears of disaster, indifferent noises become intolerable, bright light is a glare, there is an ever-present sensation of pressure or panic. If the patient have to travel daily by rail, the vibration and noise, the mental tension produced by the fear of missing the train, are severely felt. Above all, the restorative power of sleep is impaired; it is brief, interrupted, or unrefreshing. Sometimes there is an almost Roman over-sensitiveness to words and names, with perverse ingenuity in educing some evil omen or gloomy train of thought; there is inability to bear the small annoyances, the mosquitos of social life. On lying down to rest the occurrences of the day, especially those accompanied with any circumstances of annoyance, re-enact themselves with vivid semblance of reality. When the attempt is made to obtain for the brain that rest which alone can restore it, the active mind abhors the vacuum, and the patient at first seems worse. But rest is absolutely necessary for the exhausted organ. At first old lines of

forgotten care and anxious thought reappear, just as in time of drought the levelled sward will show the outlines of a forgotten building. In the seventh chapter I have pointed out some of the means which friendly and affectionate care will find to be beneficial in proportion to their judicious and persevering use. Consulting their physician, they are somewhat condemned as subjects of softening, or what not, of the brain, or are pronounced too off-hand free from disease, and told to 'shake it off.' I have known both to occur to the same patient. The gloomy view is not unfrequently negatived by recovery; the other is cruel to a patient who, if he can be induced to confess freely, will often admit that mental agony has often driven him to the verge of suicide. He abhors the thought and struggles to dismiss it. To aid any who are thus fighting with demons, let me conclude this chapter with two well-known lines, written by one who suffered severely thus, and conquered:

> "'Beware of desperate steps. The darkest day,
> Live till to-morrow, will have passed away.'"

James Morris, M.D. on "Irritability."

EXPEDIENTS FOR INDUCING SLEEP.

"SLEEP is our best restorative, and one of the most useful means of removing irritability, especially that of the mind, but not that alone. While we sleep soundly, that part of our brain by which we can fret and worry ourselves is thrown out of gear, our power of will and muscular action is suspended, and while the few functions which remain waking tend the flame of life, repair is active in those tissues whose functions are in abeyance. Over the greater part of the brain and its appendages, with its museums of world-wide thought and its wondrous machinery in action, sleep comes like night over a kingdom —all is at rest. But that sleepers may lie secure there must be watchmen ever wakeful; certain centres of brain matter, the respiratory, for instance, obtain and seem to require no sleep. All that belongs to thought, consciousness, volition and voluntary movement, is or should be at rest during sleep; all that belongs to what is called vegetative live goes on. We will notice only the most

striking example—the heart. We sleep, but our hearts wake; they can never sleep from the earliest dawn of life till the last closing shade of death; but though ever wakeful, their work is not at all times equally heavy. In sleep they are not disturbed by emotion or calls for exertion, the cessation of many functions lessens the demand upon the circulation, and the horizontal posture lessens the resistance which has to be overcome. Nutrition exceeds wear and tear, and the heart's muscular power is restored. This is important, for a weak and excitable heart is a large factor of most kinds of irritation. Sleep lessens irritability in so many ways that the attempt to trace them would lead us far beyond the most liberal bounds of popular physiology. Happy those who can always sleep when they compose themselves to do so! All literature, sacred and profane, ancient and modern, records the eager wooing of sleep when she denies herself to anxious, sick or suffering men. Besides the means of attaining sleep which our pharmacopœia offers, and I would be one of the last to depreciate the value of these, and last to

recommend patients to quaff such nepenthe at their own discretion, various expedients of more or less value have been resorted to. I select those that seem worthy of mention.

"First, there is the arrangement and regulation of food. Too empty a condition of the blood-vessels is unfavourable to sleep, and hence an evening meal, a light supper, will enable some, especially those whose dinner hour is not very late, to sleep well who cannot do so when tea or coffee has been the last thing taken. Next the regulation of stimulants. A certain force of the circulation is favourable to sleep, and hence a large number find that a stimulant at bed-time is conducive to it. With a few this has the reverse effect, and renders them feverish and wakeful, but it is not apt to do this if all excitement be avoided after taking it.

"Moderate exercise brings repose; so does severe, if it be not greatly beyond that which we are accustomed to and can bear; it brings the sleep of the labouring man. But over-fatigue is unfavourable to sleep; most people discover this sooner or later. I choose an example familiar enough to my travelled

readers. My own experience of the matter was in all respects much better.

"'Nine weary up-hill miles we sped,
The setting sun to see;
Sulky and grim he went to bed,
Sulky and grim went we.
Seven *sleepless* hours we tossed, and then,
The rising sun to see,
Sulky and grim we rose again,
Sulky and grim rose he.'

"The necessity of rising at a given hour much earlier than usual is another disturbing element in this case.

"Lying wakeful, or restlessly tossing, thoughtful men, who are, perhaps, peculiarly liable to this state, have tried many ingenious expedients for attaining to that sort of easy vacancy of mind which is the usual prelude to sleep. Wordsworth thus describes a trial and failure:

"'A flock of sheep that leisurely pass by,
One after one; the sound of rain and bees
Murmuring; the fall of rivers, winds and seas,
Smooth fields, white sheets of water, and pure sky;
I've thought of all by turns, and still I lie
Sleepless——
Even this last night, and two nights more I lay,
And could not win thee, Sleep, by any stealth!'

"Sometimes the thoughts may be drawn off from painful subjects by such contrivances; it is, however, difficult, and probably they are altogether much less frequently successful than the means afforded by religious thought, in which there is more philosophy and common sense than some clever people think."

James Morris, M.D. on "Irritability."

THE "BLUE-DEVILS"; OR, LIVER AND STOMACH AFFECTION COMBINED.

"By the term 'MORBID SENSIBILITY OF THE STOMACH AND BOWELS,' I mean a disordered condition of the gastric and intestinal nerves in which their natural sensibility is changed, being morbidly acute for the most part, or otherwise perverted. By this term I merely designate a fact or condition which, in my opinion, obtains much more generally in this class of maladies than the state called indigestion—indeed, I think I may aver, that it is never absent in the functional disorders of the digestive apparatus now under review, and that it forms the connecting link between

these disorders and the various sympathetic affections of other and distant part of the system. This is my apology for the term.

"When the combination of liver and stomach affection is established, we have a train of well-marked phenomena indicative of their co-existence. The appetite is fickle, being sometimes ravenous, at others almost annihilated, and sometimes whimsical. Whatever is eaten produces more or less of distension, discomfort, or even of pain in the stomach, the duodenum, or in some portion of the alimentary canal, till the fœcal remains have been evacuated. On this account the bilious and dyspeptic patient is very anxious to take aperient medicine, as temporary relief is generally experienced by free evacuations. I say temporary relief; for purgation will not remove the cause of the disease; it only dislodges irritating secretions, soon to be replaced by others equally offensive. Indeed, the usual routine of calomel at night and black-draught in the morning, if too often repeated, will keep up rather than allay irritation in the bowels, and produce, as long as they are continued, morbid secretions from

the liver and whole intestinal canal. It is astonishing how long scybala and irritated undigested matters will lurk in the cells of the colon, notwithstanding daily purgation. Many instances have come to my knowledge, where portions of substances eaten two, three, and four months previously, have at length come away in little round balls, enveloped with layers of inspissated mucus, or in a black kind of powder, or thin lamina, like tea-leaves soaked. These scybala or undigested matters keep up an *irritation*, generally without any distinct pain, in the bowels; and the effects of this irritation are manifested in the distant parts by the most strange and anomalous sensations that appear to have no connection with the original cause. The practitioner is thrown off his guard by the belief that, after repeated cathartics which scour the bowels, there cannot be anything left there. But this is a great mistake. It is not the most powerful purgative that clears the bowels most effectually. If irritation be first allayed by hyosciamus or other anodyne, and then a mild cathartic exhibited, the evacuations will be much more copious than if the most drastic

medicines are exhibited without previous preparation.

"In addition to the various appearances of the motions as described by Dr. Wilson Philip, I may add that, although the liver is often very torpid in this disease, and consequently the fœces of a clay colour, and devoid of natural smell, yet there is, in many cases, a secretion of viscid bile, which appears either distinct in the motions, or when incorporated with them, renders them as tenacious as bird-lime. It is exceedingly difficult to separate these motions from the bottom of the utensil by affusions of water. It is this tenacious ropy bile which hangs so long in the bowels of some people, and, by keeping up a constant irritation of the intestinal nerves, produces a host of uneasy sensations in various parts of the body, as well as fits of irritability in the mind. In some cases where this poisonous secretion lurks long in the upper bowels, the nerves of which are so numerous, and the sympathies so extensive, there is induced a state of mental despondency and perturbation which it is impossible to describe, and which no one can form a just idea of but he who has felt it

in person. The term 'blue devils' is not half expressive enough of this state; and, if my excellent friend Dr. Marshall Hall meant to describe it under the head 'mimosio-inquietâ,' he never experienced it in propriâ personâ! This poison acts in different ways on different individuals. In some, whose nervous systems are not very susceptible, it produces a violent fit of what is called bilious colic, with excruciating pains and spasms in the stomach and bowels, generally with vomiting or purging, which is often succeeded by a yellow suffusion in the eyes, or even on the skin. Severe as this paroxysm is, the patient may thank his stars that the poison vented its fury on the body instead of the mind. Where the intellectual faculties have been much harassed, and the nervous system weakened and rendered irritable, the morbid secretion acts in that direction, and little or no inconvenience may be felt in the real seat of the offending matter. The mind becomes suddenly overcast, as it were, with a cloud, some dreadful imaginary or even unknown evil seems impending, or some real evil of trifling importance in itself is quickly magnified into

a terrific form, attended, apparently, with a train of disastrous consequences, from which the mental eye turns in dismay. The sufferer cannot keep in one position, but paces the room in agitation, giving vent to his fears in doleful soliloquies, or pouring forth his apprehensions in the ears of his friends. If he is from home, when this fit comes on, he hastens back, but soon sets out again, in the vain hope of running from his own wretched feelings. If he happen to labour under any chronic complaint at the time, it is immediately converted (in his imagination) into an incurable disease, and the distresses of a ruined and orphaned family rush upon his mind and heighten his agonies. He feels his pulse and finds it intermitting or irregular; disease of the heart is threatened, and the doctor is summoned. If he ventures to go to bed, and falls into a slumber, he awakes in the midst of a frightful dream, and dares not again lay his head on the pillow. This state of misery may continue for twenty-four, thirty-six, or forty-eight hours, when a discharge of viscid, acrid bile, in a motion of horrible fetor, dissolves at once the spell by which the

strongest mind may be bowed down to the earth, for a time, through the agency of a poisonous secretion on the intestinal nerves, or it may go off without any evacuation of offending matter, leaving us in the dark as to the cause of such a train of distressing phenomena. I believe such a train of symptoms seldom obtains, except where there has been a *predisposition* to morbid sensibility, occasioned by mental anxiety, vicissitudes of fortune, disappointments in business, failure of speculations, domestic afflictions, too great labour of the intellect, or some of those thousand moral ills which render both mind and body so susceptible of disorder.

"Were I at liberty, I could relate some almost incredible examples of the extent to which the most towering intellect may be subjugated by an ignoble enemy in the shape of a corporeal disorder. I lately saw a gentleman of brilliant talents and prolific genius, who could sit down and write extemporaneously whole pages of superior poetical effusions, with scarcely an effort of the mind, and who would yet, from a sudden derangement of the digestive organs, be so completely

and quickly prostrated in intellectual power as not to be able to write three lines on the most common subject. On a late occasion, when he had merely to communicate an official transaction that required not more than half-a-dozen lines of the plainest language, he could not put pen to paper, though the attempt was fifty times made in the course of two days. At length he was obliged to throw himself into a post-chaise and perform a long journey, to deliver orally what might have been done in one minute by the pen. In half-an-hour after this task was performed, he sat down and wrote an ode descriptive of his own state of nervous irritability that would not have done discredit to the pen of a Byron!

"The author of this Essay has himself been so enervated by a fit of what is called indigestion, as to be utterly incapable of breaking the seal of a letter for twenty-four hours, though to all appearance in good health at the time. Equally astonishing and unaccountable is the degree of timidity, terror, incapacity, or whatever other magic-like spell it is, which annihilates for a time

the whole energy of the mind, and renders the victim of dyspepsia afraid of his own shadow, or of things more unsubstantial (if possible) than shadows. It is not likely that the great men of this earth should be exempt from these visitations any more than the little, and if so, we may reasonably conclude that there are other things besides *conscience* which 'make cowards of us all,' and that, by a temporary gastric derangement many an enterprise of 'vast pith and moment' has had its 'current turned away,' and 'lost the name of action.' The philosopher and the metaphysician, who know but little of these reciprocities of mind and matter, have drawn many a false conclusion from, and erected many a baseless hypothesis on, the actions of men. Many a happy and lucky thought has sprung from an empty stomach! Many an important undertaking has been ruined by a bit of undigested pickle; many a well-laid scheme has failed in execution from a drop of green bile; many a terrible and merciless edict has gone forth in consequence of an irritated gastric nerve! The character of men's minds has often suffered from temporary

derangements of the body, and thus health may make the same man a hero in the field, whom dyspepsia may render an imbecile in the cabinet!

"In some constitutions, especially where there has been gout in the family, or some hereditary disposition to disease, these attacks of vitiated secretion in the glandular organs of the digestive apparatus seem almost necessary, from time to time, to clear, as it were, the constitution, like paroxysms of gout itself. It is hardly possible, in such cases, to prevent entirely the recurrence of these storms, even by the strictest attention to diet, regimen and medicine; but if these precautions are not taken to restrain the violence and lengthen the intervals, the attacks become dangerous, and derangement of function may ultimately end in disease of structure. On this account, people should not consider their temperance and vigilance as thrown away, because these periodical visitations cannot be entirely prevented by the most skilful physicians. Everything in this world is good or bad by comparison. There is a defect in such constitutions, whether hereditary or acquired,

and they must be contented with keeping such defect in check, and preventing its assuming a much worse form than that in which it presents itself.

"It is under the influence of such paroxysms as these, I am thoroughly convinced, that nine-tenths of those melancholy instances of suicide, which shock the ears of the public, take place. Nothing is more common than to hear of these catastrophes, where no ostensible cause could be assigned for the dreadful act. There might be no real moral cause, but there was a real physical cause for the momentary hallucination of the judgment, in the irritation of the organ of the mind, very often through sympathy with the organs of digestion. Such is the intimacy of connexion and reciprocity of influence between the intellectual and corporeal functions.

"The foregoing is a sketch of a high degree of biliary irritation acting on the mental faculties through the medium of the intestinal nerves. But there are a thousand shades of this irritation, displaying themselves more in the temper or moral character than

in the corporeal functions. These I cannot at present stop to delineate, as they will be alluded to further on.

"In the complicated disease under consideration, there are various functions disturbed, and phenomena produced which are all referable to one common source. The tongue is furred, or white, especially in the middle and at the root, and when there is much irritation in the stomach or duodenum, the papillæ are elevated and the edges and tip red. There is also a disagreeable taste in the mouth, especially in the mornings, and some people complain of a peculiar sense of constriction at the root of the tongue and about the fauces, which cannot be accounted for on any other principle than that of sympathy with the stomach. The mouth feels clammy, and there is a heavy odour on the breath. The clean, red and shining tongue, whether moist or dry, is indicative of serious irritation, if not inflammation, in the lining membrane of the stomach or bowels. It resembles a beef-steak or a dissected muscle.

"The eye may or may not be tinged with yellow; but there is a peculiar muddiness or

lacklustre in the coats of that organ, with an expression of languor or irritability in the countenance, with sense of weakness, especially about noon, which are singularly characteristic of the malady, and indicate with unerring certainty its existence to the experienced physician. In people beyond the age of forty-five, there is usually a greater defect of vision, particularly by candle-light, when the digestive organs are disordered, than when the functions of the stomach and liver are in good condition. The urinary secretion is generally disturbed, being either turbid or high-coloured, with more or less of pink or white sediment, or with an oily kind of a film floating on the surface. It is for the most part however rather scanty than otherwise, with occasional irritation in passing it. Sometimes, when the individual is in a state of nervous irritation, it is as limpid as pump-water, made every half-hour and in large quantity in the aggregate. It is curious that this clear and insipid water should be more irritating to the bladder than the most concentrated and highly saline urine. The individual cannot retain more than a few

spoonfuls at a time, without great inconvenience.

"The skin and its functions are very much affected in bilio-dyspeptic complaints. It is either dry and constricted or partially perspirable, with feelings of alternate chilliness and unpleasant heat, especially about the feet and hands. The skin indeed, in these complaints, is remarkably altered from its natural condition; and the complexions of both males and females are so completely changed, that the patients themselves are constantly reminded by their mirrors of the derangement in the digestive organs. The intimate sympathy between the external surface of the body and the stomach, liver, and alimentary canal, is now universally admitted, and explains the reciprocal influence of the one on the other. Many of the remote causes, indeed, of indigestion and liver affection will be found to have made their way through the cutaneous surface. On the other hand, the great majority of those eruptions on the skin, which disfigure the countenance and cause so much irritation and suffering in various parts of the body, are

now clearly traced to disorder in the stomach and bowels. The purely local treatment of these cutaneous affections, by external applications is generally ineffectual; whereas a restoration of healthy function in the digestive organs, is almost sure to remove them, with the aid of a very few outward applications."

"An Essay on Indigestion." By Dr. James Johnson.

SPECULATION AND NERVOUS DISEASE.

"The speculative tendency of the present day, and the pace at which men live, the competition in the mad desire to accumulate wealth rife among us, the lust of gold, are doubtless fertile sources of nervous disease, too often eventuating in insanity . . . . . Unquestionably business, calmly conducted and faithfully pursued, is an agent in preserving health, for it is generally admitted that idleness and sloth act very decidedly in undermining the health, rendering the nervous system morbidly sensitive, and shortening life. But business, when it degenerates into gambling, keeps the speculator in one continual whirl of excitement, and exercises a

very prejudicial effect upon the nerves. Gone all bodily health, gone the *mens æqua*, and in their place dyspeptic and a thousand other nervous symptoms; for it is well to know that no more pregnant cause of indigestion exists than a perturbed and disordered mind."

G. Y. Hunter on "Body and Mind: The Nervous System and Its Derangements."

A HINT FROM HIPPOCRATES AND GALEN.

"If a man wishes to find an additional reason why he should cultivate equality of temper and serenity of mind, he may find it in the thought that all writers, from Hippocrates and Galen downwards, have considered those qualities as very favourable to longevity."

E. A. Parkes, M.D., F.R.S., on "Personal Care of Health."

HEALTHY, DEFECTIVE AND PAINFUL DIGESTION.

"HEALTHY digestion is quick, complete and easy. There can be no excess of it, for food cannot be too quickly and completely converted into chyme and taken into the blood, and there is no such thing as too much health and bodily comfort.

"In *ill health* digestion is impaired in one or more of these qualities; it becomes *slow*, *defective and painful* . . . . . By digestion being *slow*, I mean that the act in some part of the alimentary canal is not completed by the time when the convenience of the individual requires that it should be completed. The stomach may retain so much of a former meal that it is not in a fit state to receive the new one which is needful for the sustenance of the body. Hence arises a want of the natural appetite and (when it is long continued) imperfect nutrition, anæmia, debility, &c. Or, if we attempt to force food too quickly on the unwilling stomach, we have chemical decomposition and defective digestion as consequences.

"The average time by which the stomach should have naturally emptied itself varies in different healthy persons from two to four hours The intestines have extracted all that they are capable of absorbing in eight or nine hours, and the relics of complete digestion are ready for expulsion from a vigorous young person in twenty-four hours.

"By defective digestion I would imply, that food capable of nourishing the body cannot do so, from lack of certain changes which it should naturally undergo in the alimentary canal. It is passed from thence either unaltered or chemically decomposed. There are seen in the fæces, either by the naked eye or the microscope, masses of starch, muscular fibre, fat, &c. I have several times had them brought to me, under the idea that they were worms, pieces of intestine, or other foreign bodies. Or else the products of their decay, consisting of various obnoxious gases and acids, are developed in a quantity subversive of social comfort.

"Painful digestion may be both defective and slow, but, on the other hand, it not infrequently also is complete and performed with

sufficient quickness. All that it is intended to express by the word is its accompaniment, at some stage of its progress, by feelings varying from slight discomfort to absolute agony."

Thomas King Chambers. "The Indigestions or Diseases of the Digestive Organs Functionally Treated."

ON OVER-EATING AND THE FIDGETS.

"THE phenomena which surpervene on the introduction of *too large a quantity* of food and drink into the stomach, have been sometimes confounded with the symptoms of indigestion, to which indeed they bear considerable resemblance. Thus, a man in perfect health, and with an excellent appetite, is allured by variety of dishes, agreeable company, provocative liquors, and pressing invitations, to take food more in accordance with the relish of appetite than the power of digestion. No inconvenience occurs for an hour or two; but then the food appears to, and actually does, swell in the stomach, occasioning a sense of distension there, not quite so pleasant as the sensations attendant on the various changes

of dishes, and bumpers of wine or other drink. He unbuttons his waistcoat, to give more room to the labouring organ underneath: but that affords only temporary relief. There is a struggle in the stomach between the *vital* and the *chemical* laws, and eructations of air and acid proclaim the ascendancy of the latter. The nerves of the stomach are irritated by the new and injurious compounds or extrications, and the digestive power is still further weakened. The food, instead of being formed into bland and healthy chyme in a couple or three hours, and thus passed into the duodenum, is retained for many hours in the stomach, occasioning a train of the most uneasy sensations, which I need not describe, but which amply punish the transgression of the laws of nature and temperance. Instead of sound sleep, the gourmand experiences much restlessness, and what is called *fidgets*, through the night—or, if he sleeps, alarms his neighbours with the stifled groans of the nightmare. In the morning, we perceive some of those sympathetic effects on other parts of the system, which at a later period of the career of intemperance, play a more important part

in the drama. The head aches—the intellect is not clear or energetic—the eyes are muddy—the nerves are unstrung—the tongue is furred—there is more inclination for drink than food—the urinary secretion is turbid, or high coloured—and the bowels very frequently disordered, in consequence of the irritating materials which have passed into the intestinal canal partly digested. This can hardly be called a fit of indigestion, though, even here, we find many of the leading phenomena which afterwards harass the individual without such provocation. It is a fit of repletion, or *intemperance*, strictly speaking, and repletion seldom fails, in the end, to induce that morbid sensibility or irritability of the stomach and bowels which forms the characteristic feature of indigestion.

"I have called the above a *fit of repletion or intemperance*, and, of course, it is rather an extreme case, though by no means very uncommon. Nine-tenths of men in civilised society commit more or less of this intemperance every day. The over distension and the inordinate stimulation weaken the powers of the stomach, in the end, according to a law

universally acknowledged in physiology. Any organ that is *over-exerted* in its function, is, sooner or later, weakened—nay, the remark applies to the whole machine. Nothing is more common than to see originally good constitutions broken up prematurely by inordinate labour, whether of body or of mind. The *debility* thus induced, whether of a part, or of the whole machine, is invariably accompanied by *irritability*. The *former* has been recognized in all ages as the parent of the *latter*. In this way a *morbid sensibility* may become established in the digestive organs; but it does not require a sumptuous table and a variety of wines to induce the above mentioned phenomena. In every class of society down to the very lowest, the quality or quantity of food and drink is perpetually offending, more or less, the nerves of the stomach and bowels, and thus producing the same phenomena as among the rich, though modified by their habits of life. If we do not find among the lower classes the same amount of hypochondriacal and nervous affections, we observe a still greater proportion of purely corporeal maladies, as organic

diseases of the stomach, lungs, heart, liver and other parts, occasioning a far greater range of mortality than in the upper classes. Besides, the numerous other causes of a moral and physical nature which lead to this condition of the digestive organs, are found operating among all classes without exception.

"If then, when in health, we experience any of the foregoing symptoms after our principal meal—if we have a sense of distension, eructations, disturbed sleep, with subsequent languor of body or mind, there was intemperance in our repast, if that repast did not amount to two ounces of food, or two glasses of wine.

"But confirmed *indigestion* is not so much induced by this violence habitually offered to the stomach, as by the re-action of other organs (whose functions have been disturbed sympathetically) on the organs of digestion. The nervous system and the liver repay with interest, after a time, the injuries they sustain from the stomach. The gastric fluid, so much under the influence of the nerves, becomes impaired—the hepatic secretion vitiated—and then the phenomena of morbid sensibility and

of indigestion gradually acquire a higher degree of intensity, by the additional sources of irritation thus generated, multiplied and reflected from one organ on another."

"*An Essay on Indigestion.*" *By Dr. James Johnson.*

HOW TO AVOID FLATULENCE.

"MANY commercial men give up vegetables because they find that, taken at a mixed meal along with meat, they cause flatulence.

"If they will separate the two classes of food which require the digestive powers of different and somewhat opposite solvents, the saliva and the gastric juice, if they will take vegetables at one meal and meat at another, they will often find the difficulty overcome, and full quantities of both digested without fermentation."

ADVANTAGES ENJOYED BY RETAILERS.

"Besides the reason mentioned above, another may be given for the long hours borne by retailers, namely, that their shops are better ventilated and lighted than most of even the wealthiest merchants' counting houses. To pass from the magnificent dwelling of his wife and daughters, to the dull, stuffy den of many a prince of commerce, recalls the image of Sampson grinding in the dark, through the treason of his money-loving spouse. Things were not so bad when the family lived over the offices, and a softening female influence civilised the whole house. But now work and life seem to be seeking a divorce from one another, and the place of business is growing more and more gruesome, and, like another ill-omened locality, is not to be alluded to in polite society.

"A lady's mission for the improvement of these dwellings is urgently called for. Unlike other missions, it could dispense with promoters, secretaries, speeches, committees, subscriptions and collectors, or rather, all

these agencies united could embark in the family conveyance, or even in a one-horse fly, and begin operations at once, with a builder and decorator as assessor. The scale of expenditure should be proportioned to that of the other homes; it will probably add very little to the yearly bills, nothing in comparison to trailing skirts and spring bonnets."

Thomas King Chambers. "*A Manual of Diet in Health and Disease*," *Second Edition*, 1876.

[Of all the crazy inventions of our time, none can match in utter craziness with those natty glass boxes which the business men of our day are foolish enough to allow their architects to put up in the grand new warehouses. Everything is sacrificed to the rage for uninterrupted floor space and great plate glass windows. The ordinary clerks and the porters can breathe in the large open space where the stock is kept and the work chiefly done, whilst the employer and his "superior" people undergo gradual asphyxiation in the glass counting-house or private room, glazed off in a corner, with its little ventilating pane high up (which, by the way, is as often shut as not).

The whole device is one worthy of the palmy days of the Inquisition, when refined cruelty sought means of killing people by inches. What can be the result of spending one's existence in such absurd places, with the air thoroughly deoxygenised, but headache, impaired appetite, nervous weakness, and a general state of brain dulness and irritability?—*Note by the* Editor.]

ON LIVING OUT OF TOWN.

"COMMERCIAL work can be done only in the town, and it must be confessed that town air and influences are not the most favourable to health. On this score many now-a-days spend their nights at long distances from their places of business, so that no more time than is absolutely essential should be spent at a disadvantage. The success attendant upon this plan of residence in the country is closely proportioned to the time at which business can be left. Unless an hour or two can be given to relaxation in the purer air before dinner, I do not think the labour of rushing backwards and forwards is compensated for. It is pleasant, doubtless, to see the junior branches of the family flourishing among green fields, but not when the bloom is gained by the exhaustion of the bread-winner's strength. Those who can afford it will do better to fix their permanent residence near their work, and live temporarily in the country for a few months during the long days."

Anon.

THE SOLVENT POWERS OF THE STOMACH.

"The different operations of cookery, as toasting, boiling, baking &c., have all a reducing effect; and may therefore be considered as preparatory to the solvent action of the stomach. Of these operations Man's nature has taught him to avail himself, and they constitute the chief means by which he is enabled to be omnivorous; for without such preparation a very large portion of the matters which he now adopts as food would be completely indigestible. By different culinary processes, the most refractory substances can often be rendered nutritious. Thus, by alternate baking and boiling, the woody fibre itself may be converted into a sort of amylaceous pulp; not only possessing most of the properties of the amylaceous element, but capable of being formed into bread.

"The culinary art engages no small share of attention among mankind; but unfortunately cooks are seldom chemists; nor indeed

do they understand the most simple of the chemical principles of their art. Hence, their labour is most frequently employed, not in rendering wholesome articles of food more digestible, which is the true object of cookery, but in making unwholesome things palatable ; foolishly imagining that what is agreeable to the palate must be also heathful to the stomach. A greater fallacy can scarcely be conceived ; for though, by a beautiful arrangement of Providence, what is wholesome is seldom disagreeable, the converse is by no means applicable to man ; since those things which are pleasant to the taste are not infrequently very injurious. Animals indeed, for the most part, avoid instinctively all unwholesome food ; probably because everything that would be prejudicial is actually distasteful to them. But as regards man the choice of articles of nourishment has been left entirely to his reason.

"In order to illustrate the importance of a judicious adaptation of cookery, we may observe that the particular function of the stomach now under consideration, namely the dissolving or reducing function, is liable to very great derangements.

"In some individuals the reducing power is so weak, that their stomach is almost incapable of dissolving solid food of the most simple kind. In such a state of the stomach a crude diet of the flesh of animals in a hardened state, or of other compact substances, is little else than poisonous; while the same animal and vegetable matters often agree well if reduced to a pulpy state.

"On the other hand, as in the disease termed diabetes, the solvent powers of the stomach are enormously increased; and every article of food is dissolved and absorbed almost as soon as it is swallowed. In such cases a diet and a mode of preparation are required, directly the reverse of those which are found to be so beneficial when there is a debility of the solvent powers; and aliments must be chosen which are firm and solid, but at the same time nutritious."

"The Function of Digestion." (8th Bridgewater Treatise). By William Prout, M.D., F.R.S.

MISTAKES ABOUT "DEBILITY."

"THE vague or mistaken use of the word *debility* is the source of much mischievous error in the management of diet, both in acute disease and in the ordinary treatment of dyspeptic cases. It behoves the physician to keep this constantly in mind, lest his own judgment be misled by the wrong interpretation of others. The term in question is often applied in cases where the sensations so described are in reality owing to *oppression*, and oppression from that very food which is unceasingly sought for as a remedy. The organs of digestion are overloaded, and not only their powers, but those of the whole body, thereby weakened and impaired. And to the condition thus produced we give the same name by which we describe the effects of excessive hæmorrhage, of typhus fever, of pulmonary disease, or other protracted disease, exhausting all the powers of life! The whole subject of debility, in its more general sense, physiologically as well as practically considered, is of great interest, and merits the

most careful examination, freed from those ambiguities of language which old medical controversies and the popular prejudices of every age have alike contributed to engender."

Sir Henry Holland on "Diet and Disorders of Digestion."

BEWARE OF THE FOUNDATION OF PILES.

"The extraordinary delay of the fæcal remains in the first passages cannot but be prejudicial to health, as every one must have observed in his own person, during even a temporary confinement of the bowels. From this source arise hæmorrhoids, partly from the mechanical obstruction of the hardened fæces, partly from the torpid circulation in the liver preventing a free return of blood from the hæmorrhoidal vessels. In this way also arise, in part at least, those headaches so frequently attendant on constipated bowels, and which seem, in many instances, to be occasioned by the masses of hardened collavies in the bowels pressing on the descending aorta, and causing an unusual quantity of

blood to be thus distributed to the head, with pain, vertigo, and various other uneasy sensations in the sensorium."

Dr. James Johnson's Treatise on "Derangements of the Liver, Internal Organs, and Nervous System."

SYDNEY SMITH ON ERRORS OF DIET.

"We all know, many of us from personal experience, that indigestion interferes with intellectual work, and impedes the expression of thought. The habitual dyspeptic often exhibits great lethargy, which may become so great as to cause him to be incapable of the slightest mental exertion. After meals, he usually experiences an invincible desire to sleep, and exhibits an insurmountable repugnance to move. He often displays a marked degree of nervous irritability. He is low-spirited, and his low spirits may vary from slight dejection and ill-humour to the most extreme melancholy. He is frequently morose, and so irritable, that he cannot bear to be thwarted in the slightest degree, either by word or deed. He misconceives every act

of friendship, is suspicious of those who desire to serve him, and exaggerates slight ailments into substantial grievances. In fact, the confirmed dyspeptic makes anything but a pretty picture. The mental condition so often associated with dyspepsia did not escape the acute observation of Sydney Smith. Referring in his characteristically humorous way to the horrors of indigestion, he says:

"'The longer I live, the more I am convinced that the apothecary is of more importance than Seneca, and that half the unhappiness in the world proceeds from little stoppages, from a duct choked up, from food pressing in the wrong place, from a vexed duodenum, or an agitated pylorus. The deception as practised upon human creatures is curious and entertaining. My friend sups late; he eats some strong soup, then a lobster, then some tart, and he dilutes these esculent varieties with wine. The next day I call upon him. He is going to sell his house in London, and to retire into the country. He is alarmed for his eldest daughter's health. His expenses are hourly increasing, and nothing but a timely retreat can save him from

ruin. All this is lobster, and when over-excited nature has had time to manage this testaceous incumbrance, the daughter recovers, the finances are in good order, and every rural idea effectually excluded from the mind. In the same manner, old friendships are destroyed by toasted cheese, and hard salted meat has led to suicide. Unpleasant feelings of the body produce correspondent sensations in the mind, and a great sense of wretchedness is caused by a morsel of indigestible and misguided food.'"

OUR EVERY-DAY BLUNDERS.

"THERE is no complaint that the physician is so frequently called upon to treat, in one shape or another, as that of indigestion; and this arises from the nature of the position the digestive organs occupy. As with other maladies, indigestion may be due to an inherited weakness of the organs, or to some other internal cause; but in by far the majority of instances it is by an influence of an external nature that the complaint is

brought on. Errors in eating and drinking form undoubtedly the most fruitful source of the complaint; and looking at the quantity and quality of the articles that are often put into the stomach—looking at the unnatural mode of living so common around us—the wonder is, that the digestive organs escape being morbidly influenced by the unnatural circumstances to which they are exposed as freely as they do. By overtaxing the digestive powers, a disordered state of the digestive organs may be brought about, just in the same manner, as is well known, disordered states of the brain and vocal apparatus are brought about by over-mental application and over-exercise of the voice."

F. W. Pavy, M.D., F.R.S., in his "Treatise on the Function of Digestion; its Disorders and their Treatment."

THE AIM OF THE MEDICAL MAN.

"You are to look not to political rank, but to the rank of science. No other rank belonged to Newton or Cavendish, to Hunter or Davy, yet their names will live in distant ages, and they will be regarded as benefactors of the human race when the greater number of their more noisy contemporaries, if remembered at all, are remembered without respect."

Sir Benjamin C. Brodie.

NATURE'S SURPRISES.

"We have also parks and enclosures of all sorts of beasts and birds; which we use, not only for view or rareness, but likewise for dissections and trials, *that thereby we may take light what may be wrought upon the body of man;* wherein we find many strange effects; as continuing life in them, though divers parts, which you account vital, be perished and taken forth; resuscitating some that seem dead in appearance; and the like."

Bacon's "New Atlantis," given as motto to "Mayo on the Nerves."

JOHN HUNTER'S SPECULATION CONCERNING THE STOMACH.

"I AM inclined to believe that the stomach has a power of forming air, or letting it loose from the blood, by a kind of secretion. We cannot, however, bring any absolute proof of this taking place in the stomach, as it may in all cases be referred to a defect in digestion; but we have instances of air being found in other cavities where no secondary cause can be assigned."

John Hunter's "Observations on Digestion."

CEREBRAL INFLUENCE.

"THE flatulent dyspepsia of the student, the tears of the distressed, the dry mouth of the anxious, and the jaundice of fright, daily remind us how far the cerebral influence extends, and physiology will hereafter teach us to trace the steps whereby these effects are produced. As there is no explanation of laughter, when the axillary nerves are tickled, so there seems to be none of the

morbid fears which oppress those who are the subjects of some affections of the colon, and who weary our patience with their doleful complaints. Yet, surely we have no more ground to deny the reality of the one than of the other, though we must at present refer both to some ultimate fact of our natural history. 'As face answereth to face' by mysterious sympathy, so do these and other peripheral impressions excite or depress, in an equally mysterious way, the subjects of them."

Sir W. Gull's "Clinical Observation in Relation to Medicine in Modern Times.

MISCHIEF—DIRECT AND REFLEX.

"It is the opinion of most men eminent for integrity and experience that nine-tenths of the ailments with which mankind are afflicted can be traced, directly or indirectly, to a costive state of the bowels, which predisposes the constitution to contagious and epidemic diseases, and lays the foundation of some of the most formidable and fatal maladies."

Andrew Paul (Surgeon), "Practical Observations on Costiveness."

THE POWER OF THE BODY.

"The vigour of the mind decays with that of the body, and not only humour and invention, but even judgment and resolution, change and languish with ill constitution of body and health."

Sir William Temple.

A GOLDEN RULE FOR CURING CONSTIPATION.

"It is the laxative group or milder form of purgative that is usually required in cases of constipation; and moderate doses, repeated at short intervals, are better than larger doses at longer intervals. A violent action is succeeded by the production of an opposite condition, and it is the occurrence of torpor which it is so desirable to prevent. The effect that is wanted is not an occasional violent action, but a continued moderate activity of the bowels. Instead, for instance, of a couple of aperient pills being taken together at bed-time, which it may be presumed in the ordi-

nary way will be followed by free purging the next day, one pill, repeated as often as occasion may require to obtain and keep up a periodical movement of the bowels, will be attended with a far more salutary result. In a matter of this kind, such a variable amount of artificial aid being required in different individuals to produce the effect desired, the personal experience of the patient must be consulted as a guide. The assistance afforded should be just such as suffices to bring about the accomplishment of what nature ought to perform and no more."

Dr. F. W. Pavey, M.D., F.R.S., on "Constipation."

THE SYMPTOMS OF DYSPEPSIA.

"THERE is a class of patients who enter the apartments of physicians with a mixed air of timorousness, reserve, peevishness, and impatience. Their emaciations, if they are emaciated, is not of a ghastly character; something in their gait or countenance announces in general to the eye of the physician that the malady of his visitor is not of an exceedingly urgent, or of a violent,

nature. The fretfulness and restlessness engendered by the disease hinders the patient from devoting much time to the civil ceremonial of introduction or explanation, but, almost without a question on the physician's part, hurries him abruptly *in medias res*. It is easy to perceive from the fluency and fulness with which the invalid pursues the history of his feelings and symptoms that that history is rehearsed neither for the first nor the fiftieth time. Sufferings usually stated as unprecedented; plans of diet suggested to him, and followed with varied success; changes made from time to time in medicines and physicians; benefit derived from this doctor but not from that; from this watering place but not from the other; total inability to enjoy society or life; gradual departure of the powers of intellectual application; growing hebetude of thought; a resolution in embarking in a totally new mode of life; of exchanging town for country; active and civic for rural life; misery and by no means infrequently a propensity to suicide—these, or some of these, are the staple heads of a dyspeptic's inaugural discourse to any phy

sician whom he may visit for the first time. The whole is delivered in a tone slightly querulous, the consequence of a physical and mental irritation of a sort entirely peculiar.

"Perusing, the while, the patient's countenance, we may or may not detect adequate grounds for the dismal narrative, for in this point there is variety. The face is occasionally not appreciably emaciated, yet is generally so in some, and often in a great degree, and this not seldom from abuse or mismanagement of purgative medicine. The complexion is sometimes tolerably healthy, but, for the most part, there is a want of clearness, a dirtiness of the skin where it is naturally white, and the nose and cheeks have often a cold and chilly fresh look, such as exposure to dry frost produces. The nose is also often sharp. The eye may be natural in appearance and expression, but more frequently it is languid and hazy; occasionally, however, it is bright and clear. The hair, in advanced cases, is fine and withered-like, probably from the capillary canals, in common with the cutaneous excretory orifices in general, suffering contraction from the corrugation of the

skin. Such is the general information the eye collects previous to oral examination."

Dr. Robert Dick, on "Derangements, Primary and Reflex, of the Organs of Digestion."

OUR CONDITION IN HEALTH AND DISEASE.

"You that have health and know not how to prize it, I'll tell you what it is, that you may love it better, put a higher value upon it, and endeavour to preserve it with a more serious, stricter observance and tuition.

"Health is that which makes your meat and drink both savoury and pleasant, else nature's injunction of eating and drinking were a hard task and a slavish custom.

"Health is that which makes your bed easy and your sleep refreshing; that revives your strength with the rising sun, and makes you cheerful at the light of another day; 'tis that which fills up the hollow and uneven parts of your carcase, and makes your body plump and comely; 'tis that which dresseth you in nature's richest attire, and adorns your face with her choicest colours.

"'Tis that which makes exercise a sport,

and walking abroad the enjoyment of your liberty.

"'Tis that which makes fertile and increaseth the natural endowments of your mind and preserves them long from decay, makes your wit acute, and your memory retentive.

"'Tis that which supports the fragility of a corruptible body, and preserves the verdure, vigour and beauty of youth.

"'Tis that which makes the soul take delight in her mansion, sporting herself at the casements of your eyes.

"'Tis that which makes pleasure to be pleasure, and delights delightful, without which you can solace yourself in nothing of terrene felicities or enjoyments.

"But now take a view of yourself when health has turned its back upon you, and deserts your company, see then how the scene is changed, how you are robbed and spoiled of all your comforts and enjoyments.

"Sleep that was stretched out from evening to the fair bright day is now broken into pieces, and sub-divided not worth the accounting; the night that before seemed short

is now too long, and the downy bed presseth hard against the bones.

"Exercise is now toiling, and walking abroad the carrying of a burthen.

"The eye that flashed as lightning is now like the opacious body of a thick cloud, that rolled from east to west, swifter than a celestial orb, is now tired and weary with standing still; that penetrated the centre of another microcosm, hath lost its planetary influence, and is become obtuse and dull.

"If this, then, is a true picture of the opposite conditions of health and disease, what stronger inducements can any one require to give him an interest in the 'study and observation of Nature's institutions,' seeing that they are the only means by which 'the beloved ends and wished-for enjoyments' can be attained, and that we 'may as likely keep or acquire riches by prodigality, as preserve health and long life by intemperance, inordinate passions, a noxious air, and such like injurious customs, ways and manner of living?'"

Maynwaringe, on "The Method and Means of Health." 1683.

[My readers will perceive that our ancestors were not dolts—*Note by the* EDITOR.]

CHANGES IN THE QUALITY AND QUANTITY OF THE BILE.

"The chronic diseases of the liver seem to impair the functions of digestion, partly by the actual pressure upon the stomach when the liver is enlargened or hardened; and partly by morbid changes in the secretion of the bile from that condition which we know to be necessary to healthy digestion. There is a good deal of hypothesis on this subject; but there are certain points, in regard to the changes of the bile, which we may consider as ascertained with some degree of precision :

"1. We can have little doubt that the bile is often deficient in quantity, producing dyspeptic symptoms, with paleness of the stools. This seems to arise chiefly in connection with the pale degeneration of the liver, especially when the organ is much diminished in size, but in some of the extraordinary masses of disease which I have described, showing almost every point of the liver altered from the healthy structure, there

were no symptoms indicating that the bile was either deficient or vitiated; the motions being healthy, and the digestion little impaired, until a very short time before death.

"2. The bile appears to be sometimes much altered in quality. The only means by which we can judge with any degree of precision is from the appearance of the bile which is found in the gall bladder. In some diseases of the liver, accordingly, we find there a fluid of an albuminous or watery appearance, without any of the sensible qualities of bile. When we observe a change so very remarkable as this, we may conclude that other changes may take place in the quality of the bile, less recognisable to our senses, though they may impair in a great degree the functions of digestion; but this subject is at present involved in much obscurity.

"It is probable that the bile may be increased in quantity; but it must at the same time be admitted that our prevailing notions on this subject are rather hypothetical than founded on facts. The bile is a viscid fluid of a green colour, and, when it is mixed with

the usual contents of the intestinal canal, it imparts to them a bright yellow. When the motions become of a dull white or ash colour; we judge with tolerable precision of the deficiency of bile; but I am not aware of any test by which we can judge with precision of its redundancy; and I must confess my suspicion that the term bilious stools is often applied in a very vague manner to evacuations which merely consist of thin feculent matter mixed with mucus from the intestinal membrane. On this subject I find a late intelligent writer on the diseases of India expressing himself in the following manner, after alluding to the doctrine of several systematic writers in regard to bilious diarrhœa, arising from increased secretion of bile:—'Not a single fact is produced by either of these authors in support of their opinion, and it seems to rest merely upon the popular notion that the colour of the fæces is derived from the bile; but this doctrine seems rather to be taken for granted than proved.'"*

Dr. John Abercrombie.

* Mr. Tytler—Calcutta Transactions.

MENTAL EMOTION AND DIGESTION.

"WHAT is true of bodily exercise after food is almost equally so as to mental emotion, or intellectual labour. Neither with sound nor unsound digestion ought there to be any intent exertion of mind at this time. Strong or sudden emotion, from whatever cause, will instantly disturb or even stop the whole function; and short of this there is every degree in which the mental feelings habitually derange it. To this cause we may in some part attribute the frequent occurrence of dyspepsia in middle life; when the excitements are more active and various, and the passions inflict greater disturbance on the body. Their influence is familiar to observation in the sensations of the moment; and not less in the symptoms which arise from repetition of the disturbance. Two or three days of continued anxiety will bring disorder and debility into all the actions of the digestive organs, however healthy their previous state."

"*Medical Notes and Reflections.*" *By Sir Henry Holland, Bart., M.D., F.R.S., &c.*

A COMMON CAUSE OF CONSTIPATION.

"WHAT are the causes of constipation? Of all the causes which originate and establish habitual constipation, there is undoubtedly, none so common as inattention to the calls of Nature, which are too frequently not only ill-obeyed, but even set aside by every trivial circumstance. How often does it happen that a lady finding it not quite convenient to retire to the cabinet at the moment she experiences an admonition, defers it to a more favourable opportunity; but this opportunity having arrived, her efforts are powerless, the bowels will not act, and she has perforce to abandon the effort, and retire from the contest disappointed and discomfited. It should be remembered that the evacuation of the bowels is a natural and necessary function, without which health connot be enjoyed or preserved, and some resolution should consequently be exercised in order to promote this object. Some people never think of going to the closet unless urged by an imperative necessity which they cannot resist.

"The want of proper conveniences has undoubtedly much to do with the prevalence of constipation. As a rule, little or no attention is paid to the situation and construction of the water-closet. It is either placed in some out-of-the-way corner, where no one can find it, or it is so prominently situated that it requires a vast amount of manœuvring to pay a visit without the fact being patent to every one in the house. Not uncommonly in the country it is a long way off, quite at the bottom of the garden, and very likely you have to walk right past the dining-room windows to get to it. Instead of being a bright, cheerful little chamber, where you might pass five or ten minutes with a certain amount of comfort, and moralize on things in general, it is a cold, damp, repulsive room which gives you the shivers even to look at.

"It too frequently happens that the pleasures of a country visit are completely neutralised by the difficulty of attending to the bowels. If you ask a friend to come and stay with you, one of the first things you should do should be to explain to him 'the anatomy of the place.' In most country

houses of any pretensions they put up elaborate notices, telling you all about the times the post goes out, and so on, but they never give you any information respecting the situation of the water-closet, a very much more important matter. In every visitor's room there should be placed plain, straightforward directions for finding the w.c.

"In the construction of houses, too much attention cannot be given to determining the situations in which the water-closets are to be placed, in order that the access may be easy and the egress private. In many houses there is only one water-closet for the whole family. There should never be less than two, and it would be a good thing if one were reserved exclusively for ladies. People put themselves to a vast amount of expense in fitting up apartments and providing entertainment for their friends, but they too often neglect the one thing which is so essential for their comfort and well being.

"Want of exercise is a very common cause of constipation, especially in the case of women. Ladies may take a formal walk once a day, but they seldom do much more. The

upper classes residing in town get very little muscular exercise, except in dancing, the use of the legs being entirely superseded by the carriage. Considering the inactive life led by the majority of women above the station of domestics, one feels no surprise that the bodily functions are ill performed, but rather wonders that the consequences are not more serious than they are. In spite of want and privation, we find that the majority of girls in the lower classes of society are well formed, whilst the rich and well-to-do are often weak and puny. Many a kitchen maid has a physique that a duchess might envy."

"*The Family Physician.*"[*A new and admirable book published by Messrs Cassell, combining contributions by many distinguished Physicians and Surgeons.*]

ON MENTAL TRANQUILLITY, CONTENTMENT, THE DISPOSITIONS OF MIND & EMPLOYMENTS WHICH TEND TO PROLONG LIFE.

"PEACE of mind, cheerfulness and contentment are the foundation of all happiness, all health and long life. Some may here say these are means which we have not in our own power; they depend upon external circumstances. But to me it appears that the case is not so; for, otherwise, the great and rich would be the most contented and happy, and the poor the most miserable. Experience, however, shows the contrary, and more contentment, without doubt, is to be found amidst poverty than among the class of the rich and wealthy.

"There are sources then of contentment and happiness which lie in ourselves, and which we ought carefully to search out and to use. Let me here be permitted to mention a few of these helps, recommended by the simplest philosophy, and which I offer merely

as rules of regimen, the good advice of a physician how to prolong life.

"1st. Endeavour, above all things, to subdue your passions. A man who is continually subject to the impulse of his passions, is always in an extreme and exalted state, and can never attain that peaceful frame so necessary for the support of life. His internal vital consumption is thereby dreadfully increased, and he must soon be destroyed.

"2nd. People should accustom themselves to consider life not as an object, but the means of attaining to higher perfection; and our existence and fate as always directed to a higher aim, and subjected to a more exalted power. They should never lose sight of that point of view which the ancients named trust in Providence. They will thus have the best clue to direct their way through the labyrinth of life, and the greatest security against all attacks by which their peace of mind might be disturbed.

"3rd. Live always, but in the proper

sense, for the day ; that is, employ every day as if it were your last, without taking any thought for to-morrow. Unhappy men, who still think of what is to come, and, amidst your plans and projects for the future, lose the enjoyment for the present! The present is the parent of the future, and he who fully employs each day and each hour according to its destination, can in the evening lie down to repose with the agreeable satisfaction of having not only lived that day and fulfilled its object, but of having also laid the best foundation for the enjoyment of the future.

"4th. Endeavour to form as just conceptions as possible of every event, and you will find that the greater part of the evils in the world arise from mistakes, false interest, or precipitation, and that the principal point is not so much *what* is done to us as *how* we take it. He who possesses this happy talent is independent of external circumstances. As *Weishaupt* has said, 'it is certain that wisdom alone is the source of pleasure, and that folly is the source of misery. Without a total resignation in the will of Providence, a con-

viction that all events are ordered for our good, and that contentment with the world which thence arises, everything is folly, and will lead to dissatisfaction.'

"5th. One should always strengthen and confirm more and more one's trust and confidence in mankind and in all the noble virtues, benevolence, friendship, affection and humanity which thence arise. Consider every man as good, till you are convinced of the contrary by incontestable proofs; and even then man ought to be looked upon as a being misled by error, who deserves our compassion much rather than our hatred. Man indeed would be good, were he not seduced by ignorance, misconception and false interest. Woe to those whose philosophy consists in trusting no one! Their life is a continual state of defensive and offensive war; and they must bid farewell to cheerfulness and contentment. The more a man entertains good wishes to all round him the more will he render others happy, and the more happiness will he himself enjoy.

"6th. To promote contentment and peace

of mind, *Hope* is indispensably necessary. He who can hope, prolongs his existence, not merely in idea, but physically, by the peace and equanimity which he thus secures. I do not allude here to hope within the narrow boundaries of our present existence, but to hope beyond the grave. In my opinion, hope in immortality is the only hope that can make life of any value and render the burdens of it easy and supportable. Hope and Faith, ye great and divine virtues! who, without you, is able to wander through a life so full of error and deceit, whose beginning, as well as end is involved in thick darkness; the duration of which is a moment and in which we scarcely begin to look forwards to futurity when we are swallowed up by destruction! Ye are the only supports of the wavering; the greatest revivers of the weary traveller. Those who do not honour you as exalted virtues, must embrace you as indispensable assistants in this terrestrial life and endeavour to be strong in you through a love for themselves, if not through a love for the things that are invisible. In this respect one can say that religion itself may be a means for

prolonging life. The more it subdues the passions, promotes self denial, produces internal tranquillity, and enlivens the above consoling truths, the more will it serve to extend the period of mortal existence.

"*Joy*, also, is one of the greatest panaceas of life. One must not however believe that it is always necessary to excite it by sought for events and fortunate incidents. By that frame of mind which I have already delineated, people may be rendered susceptible of it; and those who have attained to that happy disposition will never want opportunities of rejoicing. But one should never neglect to seek and employ every occasion of indulging in joy that is pure and not too violent. No joy is more healthful, or better calculated to prolong life than that which is to be found in domestic happiness, in the company of cheerful and good men, and in contemplating with delight the beauties of Nature. A day spent in the country, under a serene sky, amidst a circle of agreeable friends, is certainly a more positive means of prolonging life than all the vital elixirs in the world. *Laughter*, that

external expression of joy, must not here be omitted. It is the most salutary of all the bodily movements; for it agitates both the body and soul at the same time; promotes digestion, circulation, and respiration; and enlivens the vital power in every organ.

"The higher pursuits and employment of the mind deserve here a place also; but I must remark, that it will be necessary to observe those prudential rules, which I have already laid down, to prevent an abuse of them. These higher enjoyments and pleasures are entirely peculiar to man, and an important source of vital restoration. Among these I reckon, above all, the reading of agreeable and instructive books; the study of interesting sciences; contemplating Nature, and examining her secrets; the discovering of new truths, by the combination of ideas, improving conversation &c."

Hufeland's "Art of Prolonging Life," Edited by Sir Erasmus Wilson, F.R.S.

THE POWERS OF THE DIGESTIVE ORGANS.

"From the phenomena which have been stated, it is clear that the digestive organs, in acting on these principles, exert the following powers:—

"1. A solvent power. The first action of the stomach on the alimentary substances presented to it is to reduce them to a fluid state. No substance is nutritious which is not a fluid or capable of being reduced to a fluid. The stomach reduces alimentary substances to a fluid state by combining them with water. Water enters into the composition of organised bodies in two states, as an essential and as an accidental element. A quantity of water is contained in sugar when reduced to its driest state; this water cannot be dissipated without the decomposition of the sugar; it is therefore an essential constituent of the compound. Water is combined with sugar in its moist state; of this water much may be removed without destroying the essential

properties of the sugar ; this part of the water is therefore said to be an accidental constituent of the sugar. In most cases organised bodies contain water in both these forms : and though it is commonly impossible to discriminate between the water that is essential and that which is accidental, yet the mode of union among the elements of bodies in these two states of their combination with water are essentially different. The stomach has the power of combining water with alimentary substances in both these forms. Thus fluid albumen, or white of egg, presented to the stomach is immediately coagulated or converted into a solid. Soon this solid begins to be softened, and the softening goes on until it is again reduced to a fluid. What was fluid albumen in the white of egg is now fluid albumen in chyme ; but the albumen has undergone a remarkable change. Out of the stomach the albumen of the egg may be converted by heat into a firm solid ; but the albumen of the chyme is capable of being converted only into a loose and tender solid. In passing from its state in the egg to its state in the chyme, the albumen has combined with a

portion of water which has entered as an essential ingredient into its composition. By this combination the compound is reduced from what may be called a strong to a weak state. This is the first action exerted by the stomach on most alimentary substances. They are changed from a concentrated to a diluted, from a strong to a weak state; the power by which the stomach effects this change is called its reducing power, and the agent by which it accomplishes it is the gastric juice, the essential ingredient of which has been shown to be muriatic acid, or chlorine. The muriatic acid obtained from the common salt of the blood is poured in the form of gastric juice into the stomach, dissolves the food, combines it with water, reduces it from a concentrated solid to a dilute fluid, and thus brings it into the condition proper for the subsequent part of the process.

"2. A converting power. Since whatever be the varieties of food, the chyme invariably forms a homogeneous fluid, the digestive apparatus must be endowed with the power of transforming the simple alimentary prin-

ciples into one another—the saccharine into the oily and the oily into the albuminous. The transformation of the saccharine into the oleaginous principle is traceable out of the body in the conversion of sugar into alcohol, which is essentially an oil. That the same transformation takes place within the body is indubitable. The oleaginous and the albuminous principles are already so nearly allied in nature to animal substance that they do not need to undergo any essential change in their composition.

"3. A completing power. When the alimentary substances have been reduced, and formed into chyme, when the chyme has been converted into chyle, and when the chyle absorbed by the lacteals is transmitted to the mesenteric glands, it undergoes during its passage through these organs a process the direct reverse of that to which it is subjected in the stomach; for whereas it is the office of the stomach to combine the alimentary substances with water, it is one office of the mesenteric glands to remove the superfluous water of the chyle; to abstract whatever

particles of matter may be contained in the compound which is not indispensable to it, and to concentrate its essential constituents; and consequently these organs exert on the digested aliment a completing, in contra-distinction to a reducing, power.

"4. A vitalising power. When sugar is converted into oil, when oil is converted into albumen, when albumen, by the successive processes to which it is subjected is completed, that is, when the alimentary substances are made to approximate in the closest possible degree to the nature of animal substance, they must undergo a still further change, more wonderful than any of the preceding, and far more inscrutable; they must be endowed with vitality; must be changed from dead into living matter. Living substance only is capable of forming a constituent part of living substance. The ultimate action of the digestive organs is the communication of life to the food, to which last and crowning process the reducing, converting and completing processes are merely subordinate and preparatory. Of the agency by which this

process is effected we are wholly ignorant; we know that it goes on; but the mode in which it is accomplished is veiled in inscrutable darkness.

"Blood is alive; blood is formed from the food; life is communicated to the food before it is mixed with the blood. The blood is essentially albumen, which it contains in the shape of albumen properly so called, in that of fibrin and in that of red particles. In the thoracic duct the strong albumen of the lymph is mixed with the weaker albumen of the chyle. At the point where the thoracic duct terminates in the venous system, lymph and chyle are mixed with venous blood, and all commingled are borne directly to the lungs. There the carbon with which the venous blood is loaded is expelled in the form of carbonic acid gas; the particles of the lymph undergo some, as yet unknown, change, exalting their organization; and the water hitherto held in chemical union with the weak albumen of the chyle, is separated and carried out of the system, together with the carbonic acid gas, in the form of aqueous

vapour. By this removal of its aqueous particles the ultimate completion is given to the digested aliment; and the weak and delicate albumen of the chyle is converted into the strong and firm albumen of the blood.

"It has been stated that though gelatin enters abundantly into the composition of many tissues of the body, and performs most important uses in the economy, it is never found in the blood; that it is formed from the albumen of the blood by a reducing process, in consequence of which carbon is evolved, which unites with the free oxygen of the blood, forming carbonic acid, thus conducing, among other purposes, to the production of animal heat. It is equally remarkable, that though the lymphatics or absorbents arise in countless numbers from every tissue of the body, and are endowed with the power of taking up every constituent particle of every organ, solid as well as fluid, yet gelatin is never found in the lymphatic vessels. The lymphatics contain only albumen in a form more proximate to the blood than that of the chyle; consequently before

the gelatin of the body is taken up by the lymphatics, it must be re-converted into albumen; that is, the absorbed gelatin must undergo a process analogous to that which gelatin and other matters undergo in the stomach and duodenum; it follows that the digestive process is not confined to the stomach and duodenum, but is carried on at every point of the body. Hence there are two processes of digestion, a crude and a refined process. The crude process is carried on in the stomach and duodenum, in which the dead animal matter is converted into living substance, as yet however possessing only the lowest kind of vitality. The capillary arteries receiving the substance thus prepared for them, build it up into structure perhaps the lowest and coarsest, the least organized, and capable of performing only the inferior functions.

"The lymphatic vessels probably take up from the tissues particles already organised, in order to submit them to processes which communicate to them a progressively higher organization. The notion that the contents of the lymphatics consist of worn-out particles,

capable of accomplishing no further purpose in the economy, is not tenable:—

"1. Because it is not analogous to the ordinary operations of nature to mix wholly excrementitious matter with a substance for the production, elaboration, and perfection of which she has constructed such an expensive apparatus.

"2. Because, on the other hand, the admixture of matter, already highly animalized, with matter as yet but imperfectly animalized, exalts the nature of the latter, and is conducive to its complete animalization.

"3. Because the lymph, almost wholly albuminous, is already closely allied in nature to the blood. It is, therefore, reasonable to infer that it is matter passing through an advancing stage of purification and exaltation.

"4. Because this plan of progressive organization is in harmony with the ordinary operations of nature, in which there is

traceable a successive ascent from the low to the high, the former being preparatory and necessary to the latter. The tender and delicate organs of animal life, the brain, the nerves, the apparatus of sense, the muscles, inasmuch as they perform the highest functions, probably require to be constructed of a more highly organized material, for the production of which the matter primarily derived from crude aliment is subjected to different processes, rising one above the other in delicacy and refinement, by each of which it is made successively more and more perfect, until it acquires the highest qualities of living substance, and is capable of becoming the instrument of performing its most exalted functions."

From "The Philosophy of Health; or, an Exposition of the Physiological and Sanitary Conditions Conducive to Human Longevity and Happiness," by Southwood Smith, M.D. Eleventh Edition.

ON EXERCISE AND CHANGE OF AIR IN INDIGESTION.

"The exercise both of mind and body demands particular attention in the dyspeptic. The different kinds of bodily exercise may be arranged under three heads: that in which the body is moved by its own powers; that in which it is moved by other powers, as in the various modes of gestation; and that in which the circulation is promoted without moving the body, by friction, for example, or merely by pressure.

"The dyspeptic may be so weak, that friction is the only kind of exercise which he can bear without fatigue. Wherever the strength is much reduced, indeed, although a little of some rough exercise may be borne, friction is always useful. It is the principal exercise among the higher ranks of some Asiatic nations, and was used both by the Greeks and Romans after they became luxurious. It would not be proper in indigestion to confine the friction to the abdomen, when it is the only mode of exercise, al-

though in such cases it should be carefully applied to this part. To dyspeptics in general, whatever be their other modes of exercise, friction of the abdomen is always useful.

Mere pressure is a mode of exercise inferior to friction; but if generally applied to the limbs in an interrupted manner, from the valvular structure of their veins, it has a considerable effect in promoting the circulation.

"As the total want of exercise is not more pernicious than that which occasions fatigue, and no exercise is very beneficial which cannot be continued for a considerable time, the different kinds of gestation, even after the patient has recovered a moderate degree of strength, are often found preferable to those exercises in which the body is moved by its own powers.

"The gentlest kind of gestation is sailing, which is serviceable in almost all cases of debility, and has been found particularly so in debility of the stomach and bowels.

"Next to sailing, the gentlest exercise in common use is the motion of a carriage; but

in such climates as our own, unless the patient has been accustomed to an open carriage he must either be confined to a close one, or run the risk of taking cold. As substitutes for a carriage, but inferior to it, swings and spring-chairs are used.

"None of these modes of exercise is equal to horseback, when the patient is strong enough not to be soon fatigued by it. From the stimulus given to the alimentary canal by the shaking in riding, it appears to be particularly well adapted to indigestion; and every physician has seen instances of this disease in which it has been more beneficial than any other mode of exercise.

"Any rough exercise, however, particularly riding on horseback, soon after meals, disturbs the stomach. If the reader will reflect on what has been said of the process of digestion, the cause of this will readily appear. We have seen that in healthy digestion, no admixture of the new food, with that which may yet remain in the stomach from the last meal, and which if due time have been afforded, has already undergone the action of the gastric fluid, nor indeed of the different parts

of the new food, ever takes place. We must, therefore, infer that any such admixture is unfavourable to this process; and it is evident from the way in which digestion is performed, that, did this happen, some part of the food would again be presented to the surface of the stomach, after it had undergone the digestive process; and consequently a corresponding portion of undigested food prevented from approaching it in due time.

"The mixing of the different parts of the food by any jolting exercise will be most apt to take place in the dyspeptic. If we fill a closed vessel either with solid or fluid contents, we shall find that but little relative change of place will happen among their different parts by shaking the vessel. But if instead of these contents wholly filling the vessel, any space be occupied by air, their relative situation will be readily disturbed. Now the stomach always, more or less firmly, embraces its contents; but in indigestion, air is generally extricated from the food, and we have reason to believe, indeed, is often secreted by the surface both of the stomach and bowels, and thus room is given for a ready change in the

relative position of their contents. The dyspeptic is often warned against any jolting exercise after meals by the uneasiness it occasions. It is a good general rule, therefore, for him to avoid exercise of all kinds for an hour and a half after eating. This affords an additional reason for not eating too often. We still find the dictates of nature pointing out what is best; for all animals are inclined to repose, and even to sleep after eating.

"Walking, when it can be borne for an hour or two without fatigue, is of all exercises the best. It is that which nature intends for us. There is no other accompanied with such a uniform and regular action of the muscles and joints; and from the valvular structure of the veins of the extremities, it is better fitted than any other to promote the circulation, and consequently all the functions of the system. It is also the most agreeable mode of exercise. Our desire for it, when it has been long withheld, becomes excessive.

"But in indigestion, from the peculiar effect on the abdominal viscera of riding on horseback, it is generally of service to combine it with this exercise. I have known

some dyspeptics, however, to whom horseback was always more or less irksome, when it occasioned any degree of shaking. To such the slowest riding alone can be useful, and that only when they are unable to walk for a sufficient length of time, and when the weather admits of such gentle exercise without a risk of being chilled, to which we have seen they are peculiarly liable.

"Whatever be the mode of exercise it should be taken as much as possible in the open air, no exercise within doors is equally beneficial.

"Those exercises in the open air, in which the bodily exercise is combined with a moderate and pleasureable exercise of mind, particularly gardening, are well adapted to this disease, provided the patient can avoid fatigue, which is not always easily done when the mind is occupied.

"A proper exercise of the mind, indeed, is almost of as much consequence to the dyspeptic as that of the body. When the former is languid and listless, the latter is generally debilitated and ill at ease. This state of mind is more or less counteracted by a due degree

of bodily exercise, but the occupation of the mind itself is necessary to its cure.

"The maxims by which the exercise of the body is regulated are applicable to that of the mind. The great rule is to exercise without fatiguing it. Any study which fatigues is injurious, and a mind wholly unoccupied is no less so. When the debility is considerable, the mind should be occupied by amusement alone, and even those amusements which greatly interest the feelings, or occasion any considerable effort of mind, are hurtful. When, on the other hand, the patient has recovered a considerable degree of strength, a moderate attention even to business is serviceable. However varied our occupations, if they tend only to present gratification they soon become insipid. The mind must have something in view, some plan of increasing its enjoyments, to interest it agreeably for any length of time. There are few things of greater advantage than the conversation of friends, who present to the patient the fairest side of his future prospects.

"The time of day at which either the body or mind is exercised is also a matter of import-

ance. Towards evening every kind of exertion becomes irksome, and consequently hurtful. In the debilitated, a degree of fever, or something resembling it, probably the consequence of the unavoidable irritations of the day, comes on at this time, which is only to be relieved by repose; going early to bed, therefore is of great consequence to them. It seems to be for the same reason that animal food is hurtful at a late hour.

"Exposure to the night air appears to be more pernicious than can easily be explained. I am inclined to ascribe its effects to the damp, which prevails in the early part of the night from the condensation of the watery vapour raised during the day, being applied to the skin at a time when, from the state just mentioned, its function is most apt to fail. In sultry climates, where the evening dews are heavy, the effects of the night air are often fatal, even to those in health. It is well known, both in the East and West Indies, that people are often attacked with agues, from passing a single night abroad in the woods, where the vapour is most confined. Of the baneful effects of the night air in

Batavia, Dr. Lind relates a striking proof in his account of the fevers of India: 'During the sickly season a boat, belonging to the Medway man-of-war, which attended on shore every night to bring fresh provisions, was three times successively manned, not one of her crews having survived that service.'

"The bad effects of the night air even of this country, to invalids, I had often remarked before I began to consider to what it might be ascribed. Whatever may be said of the explanation, of the fact I have no doubt. It may be observed, that the effects experienced from the night air by dyspeptics are similar to those produced on them by damp air from other causes.

"It is chiefly to the greater dampness of the air of large towns, I believe, that we should ascribe their often disagreeing with dyspeptics. Dr. Hutton has shown that when two portions of air, of different temperatures, saturated with water, are mixed, the mean temperature will not allow them to hold in solution the same quantity of water. I have, from an eminence, observed a cold wind highly charged with moisture, in passing

over a great extent of country which contained several small towns, occasion a deposition of moisture wherever it mixed with the air of the town, so that from each of them a streak of mist extended in the direction of the wind, the air everywhere else remaining perfectly clear. To the same cause we must ascribe the thick fogs of London. They occur when the air is most charged with moisture, and chiefly in the coldest weather, when the number of fires being greatest, there is the greatest difference of temperature between the air of the country and that of the metropolis.

"A damp air feels colder than a dry one of the same temperature, not only because it abstracts the heat of our bodies more rapidly, but because it tends to debilitate the functions of the nerves of the surface. A principal function of the nerves, we have seen, is to preserve the due temperature.

"Although it is of consequence for the debilitated to go early to bed, there are few things more hurtful to them than remaining in it too long. After the degree of strength of which the state of the system is capable is restored

by sleep, any longer continuance in bed, unless the debility be such as to render the mere effort of sitting up too much, tends only to relax. Getting up an hour or two earlier often gives a degree of vigour which nothing else can procure. I have known people whose feet constantly became cold and damp if they remained in bed a few hours longer than usual. For those who are not much debilitated, and sleep well, the best rule is to get out of bed soon after awaking in the morning. This at first may be too early, for the debilitated require more sleep than the healthy; but rising early will gradually prolong the sleep on the succeeding night till the quantity which the patient enjoys is equal to his demand for it.

"Lying late is not only hurtful by the relaxation it occasions, but also by occupying the time of the day at which exercise is most beneficial.

"If the dyspeptic be much debilitated, he should take his first meal as soon as he is dressed. He will often find himself hurt, and always less benefited by exercise, either of mind or body, with the stomach and upper

bowels as empty as they usually are in the morning.

"When the debility is less, he will frequently experience benefit from a walk or ride before breakfast. This observation is particularly applicable to those in whom indigestion has produced too great a determination of blood to the head, which is, for the time, increased by the recumbent posture during the night.

"We are most vigorous when the first process of digestion is so far advanced that the vessels which receive the nutriment from the intestines are pouring it into the blood; and then it is that a free circulation is most useful for mixing the new juices with this fluid, and promoting their passage through the lungs, where they are perfected into blood.

"Some light and agreeable occupation of the mind, with perfect rest of body, is best for an hour and a half after breakfast. From this period to that of the second meal, which should be the middle hour between breakfast and bed-time, is the proper time for all the more powerful exercises either of mind or

body. The corresponding interval between the second and the third meal, is better spent in the gentler employments of both; and after the last meal, which should be light, the invalid cannot go to bed too soon.

"The objection to going to bed after too full a meal is, that the sleep will be disturbed, and consequently less refreshing. Going to bed immediately, even after a light meal, in those unaccustomed to it, will have some degree of this effect at first, but this inconvenience will soon cease. However artificial our habits may be, the system is soon reconciled to a return to what is natural. When four meals in the day are necessary, the interval between the first and the last should be divided into three, instead of two equal parts.

"Under all circumstances, of course, in regulating both diet and exercise, attention must be paid to the age and habits of the patient. It is seldom proper all at once to attempt the correction of the most injurious habits; the change should be made with caution and judgment. This is particularly the case with respect to the use of fermented

liquors and active, because there are no means that more essentially influence the constitution; and were we suddenly to withdraw the accustomed stimulants, or urge to efforts beyond the strength, much injury might be done. The more advanced the age, habits are corrected with the greater difficulty, both because all habits are strengthened by continuance, and because the less vigorous the constitution is, it is the less able to bear the change.

"At advanced periods of life, a change of habits must not only be attempted more cautiously, but it must not be attempted in the same degree. It is to be recollected that in old age repose is more necessary than at earlier periods, and exertions of every kind less beneficial and more apt to be injurious; and that stimulants are less hurtful, both because old age requires excitements more, and there is less space left for them to produce their pernicious effects. Under all circumstances, however, and at all times of life, the principles which have been laid down must, I believe, be kept in view.

"What is called a change of air, is almost

always beneficial in indigestion, and particularly in the advanced stages.

"There has been much difference of opinion respecting the cause to which the benefit derived from change of place is to be ascribed. We have reason to believe that it arises from various circumstances, but least of all, in most instances, from mere change of air. It is evident that the air is effectually changed by the wind, and far more rapidly than it can be by any change of place. Yet it is only when the temperature or degree of moisture is changed by the wind that we can perceive it produce any change in the health, if we except that a certain degree of wind is useful by preventing absolute stillness of the air, which always becomes oppressive when long continued, and that independently of any impregnation of the air, for it is felt by those who inhabit single houses in the country as well as by the inhabitants of towns. A free circulation of air is particularly grateful to the feelings, and, as we might from this alone infer, favourable to health.

"The truth is the air is essentially the same in all places. It has been found by correct

experiments, that in the closest parts of London, and on the top of the Malvern Hills, it possesses the same proportion of the principle which supports animal life, and is itself, indeed, in all respects the same; but it is capable of being variously impregnated. The sense of smell at once informs those from the country that the air of large towns is less unmixed than that which they have been accustomed to breathe.

"All impregnation of this kind must, we should at first view suppose, be more or less injurious, and to a certain degree it may be so; but we have reason to believe, I think, that it is much less so than the occasional greater dampness, and consequent chilliness of the air of large towns, produced in the way just pointed out, and the usual greater stillness of the air in them from confinement by the buildings.

"If we except moisture, the chief impregnation of the air of the large towns of this country seems to be from smoke, which does not appear to be particularly unwholesome. It has, on the contrary, indeed, been supposed to preserve from disease, and has often been

employed with this view. The other effluvia of such towns are in too small quantity to produce much impregnation of the external air.

"It has just been remarked, that the change of air by the wind seems only to affect the health by the motion of the air it occasions, and by its influencing its temperature and degree of moisture. I am inclined to think that it is merely in these ways, which are doubtless in many cases very important, that change of place as far as the air is concerned, usually affects us. *

"But there are many other things in change of place capable of essentially influencing

* Some have been inclined to doubt whether the air is ever so changed as to produce disease independently of the presence of contagion, and the changes of its temperature and degree of moisture, but there are some well-ascertained facts which it is difficult to explain on any other supposition. We see contagious diseases, particularly the plague, appearing and declining in different parts of a country, perhaps hundreds of miles distant from each other, at the same time, and without any evident cause, which it would be difficult to account for by any of the known properties of contagion.

health, of which I believe the most powerful is the excitement given by the change itself. How often do we find continual change necessary, the new place being no better than the old as soon as the novelty is worn away.

"To the mere exercise of body occasioned by the travelling, or to which a new situation naturally excites, much must often be ascribed; but we must look to the occupation and cheerfulness of mind occasioned by the change for its chief effects. The feeling of sickness on the one hand, like all other feelings, is soon associated with everything around us; and on the other, the mind, if not forcibly abstracted, fixes intently on any object which for a long time chiefly occupies it. In long-continued sickness we want something to break that association, and something to divide our attention. What can so powerfully produce these effects as a total change of place? The poor in some parts of this country, who cannot afford to send their children to a distance in the decline of whooping-cough, in which change of place is so powerful a remedy, confine them daily for

a certain time close to the machinery of a mill, and this often answers the purposes as well.

"Let me add, those who ascribe to fancy all diseases which may be cured by change, know little of the nature of disease or the laws of the animal economy. Will they ascribe the whooping-cough to fancy, or eruptions and sores of the surface, pains and stiffness of the joints, and a thousand other ailments, which are often cured by change alone? We have seen how various the diseases which depend on affections of the digestive organs are, and how much these affections are influenced by the state of the mind, which is very nearly as much the subject of external circumstances as the body.

"Such are the means of preventing the re-application of the causes of indigestion most apt to arise from the disease itself. Some others will occur to the mind of every one conversant with it. Frequent vomiting, diarrhœa, and fits of constipation are among the chief of these. It is almost unnecessary to say that they must be corrected as soon

as the circumstances of the case admit of it."

From "A Treatise on Indigestion and its Consequences, called Nervous and Bilious Complaints, with Observations on the Organic Diseases in which they sometimes Terminate." By A. P. Wilson Philip, M.D., F.R.S. &c.

[This was a famous book in its day, and ran through numerous editions. The author was a very distinguished writer on the Vital Functions, and his papers on that subject appeared in "The Philosophical Transactions."]

SLEEP AND DIGESTION.

"THE relation of digestion to sleep is one of the most important in the economy of life. These two functions severally aid or disturb each other, in proportion as they are perfect or imperfect in their course; and no rules are more important than such as apply to this relation. It must be admitted, however, that all such rules are exceedingly scanty and incomplete notwithstanding the perpetual experiment which life affords on the subject. It is difficult to extricate clear results from so great a variety of conditions; and unhappily the current fashions and phrases tend rather

to perplex than inform our judgments on the subject.

"Setting aside the effects of particular articles of diet, which it is needless here to specify, the practical questions chiefly regard the relation of time and quantity of food to sleep; and these are the fitter objects of study, as some averages are attainable and convertible to use. It is clear, for example, from observation both of man and other animals, that a certain quantity of food in the stomach, concurring especially with the habitual time of rest, tends to produce sound and healthy sleep; that an excess in quantity brings on such as is broken, uneasy, and oppressed; while sleeplessness is usually the effect of the stomach being empty and needing support. To these general facts, without inquiring into their physiological cause, may be referred most of the particular relations between sleep and food, and the precepts founded upon them. The fashions of society infringe largely upon the principle thus established; and though the powers of habit and accommodation in the system do much to lessen the evils that result, yet it is certain that some methods are

greatly preferable to others, and that observation cannot better be employed than in ascertaining these.

"An important circumstance in reference to sleep, is the relation between the principal meal of the day and the time of going to rest. This is a question of constant occurrence in practice; and, without passing into details, it is enough to say that much may be done for the restoration of sleep, where this is at fault, by altering the time of dinner to an earlier hour; so as not only to admit some bodily exercise in the interval, but a light supper before going to bed.* The benefit of such change from the ordinary usage is often immediate; depending partly on the avoidance of the recumbent posture, and of efforts to sleep at a period of digestion unfit for this state; and further, and not less, on the direct effect of moderate repletion in disposing to rest. The latter circumstance, again, may depend in part on the mechanical influence of such repletion; principally, perhaps, on its

* It is a somewhat curious contrast to modern habits, that the early dinner, in the time of Augustus, appears to have been a mark of Roman luxury and fashion.

furnishing material for the secretions of the stomach to act upon, which otherwise fret with uneasy sensations the nerves of the organ itself. A small quantity of acid formed in digestion, and remaining on the stomach, will often suffice to prevent or disorder sleep, and to disturb the sensations of the whole body; the proof of this being the degree of relief from a slight dose of some alkali taken at the time.

"Various other suggestions will occur in practice, founded on the facts just stated; some of them, though simple, of greater value in the maintenance of health, and treatment of disease, than might be judged likely from their scanty employment. I would mention, as an instance, the aid that may often be got to the relief of restless nights—to the general restoration of the body when weakened by illness, and to the removal of depression and distress from which many suffer early in the morning—by a small quantity of light food taken during the night; the time, kind, and quantity of such food being varied according to the circumstances of the case. The benefits of this simple practice are too little under-

stood by physicians themselves; and accordingly it is little in use in this country, though well fitted to supersede many more ambiguous means directed to the same objects.*

"The reciprocal importance of sound and sufficient sleep to a healthy state of the digestive organs, is familiar to all. This influence is probably in a great degree of indirect kind; in some respects certainly so. There is a circle of relations here, which even if it were expedient could scarcely be viewed separately. The connections are those upon which all right practice is founded, and the knowledge of their causes is that which gives medicine its character as a science."

"*Medical Notes and Reflections.*" *By Sir Henry Holland, Bart., M.D., F.R.S., &c., &c.*

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* This remark will apply to other cases more serious than dyspepsia. The morning perspirations of hectic fever, for example, may often best be relieved by a little wine and water, with a few mouthfuls of light food, taken about the time of their coming on.

DIGESTION OF VEGETABLES — WAYWARD APPETITES.

"TREATING the subject thus cursorily, I may omit all those details as to particular articles of food which are to be found in most works on diet and digestion. The number of such facts has been materially increased of late; and more certainty and value given to them both by direct experiment, and by their association with organic chemistry. Notwithstanding this, fashion still too largely tampers with the whole subject of dietetics; and injuriously, as regards the stability of its principles, and their application to practice. Of late years, for example, this fashion has directed itself against vegetable food—an erroneous prejudice in many, perhaps in the majority of cases. Allowing, what is partly proved, that vegetable matters are carried indigested to a lower part of the alimentary canal than animal food, and admitting that more flatulence is usually produced from them, it still is the fact that a feeble digestion suffers no less, though it may

be in different ways, from an exclusively animal diet. Morbid products are alike involved; and some of these affecting not only the alimentary canal, but disturbing other organs and functions through changes produced in the blood.

"I know the case of a gentleman having the calculous diathesis strongly marked in whom animal food taken for three or four days, even in moderate quantity, invariably brings on discharge of lithic acid, as sand or gravel, suspended upon return to vegetable diet. This is a particular instance; but experience in gouty cases furnishes frequent and striking notices of the same general fact; thus indicating a large class of disorders, having much kindred with dyspepsia, in which excess in animal food rapidly becomes a source of mischief, not merely by overloading the alimentary canal, but by introducing morbid matters into the system at large. A steady abstinence from such excess may be counted among the most effectual preventives of gout in all its forms.

"A common, and, in its effects, often a serious error, is that of regarding animal food as the

main source of bodily strength and support, and especially such as is taken in a solid form. Without dwelling on the important and somewhat unexpected facts recently disclosed by chemistry, that vegetable matters used for food do actually contain in different forms and proportions, the three great constituents of animal food—albumen, fibrine, and caseine—it is enough to say that the distinction just noted is not founded on fact.*

"The flesh meat upon our tables is itself created out of vegetable substances; and though we may admit that it contains a larger proportion of nutritive matter to its weight than any other kind of food, yet is this very quality often a hindrance to easy and perfect digestion. Exuberance of nutriment, as of many of the other goods of life, is frequently rather a curse than a boon to the body.

* It is worthy of note that in wheat flour all these three nitrogenised products of vegetation exist. Their combination with sulphur in definite proportions, in the vegetable as well as animal form, is another of those wonderful relations which organic chemistry has disclosed; promising access to still deeper mysteries in the history of organic life.

"The rule of health being obviously that of blending the two kinds of food, I believe the exception more frequently required to be that of limiting the animal part in proportion to the other. The fashion of the day sets it down otherwise; and this is one of the subjects where loose or partial opinions easily get the force of precepts with the world at large. Though it is generally difficult to persuade a dyspeptic patient to such change, yet have I often attained much good by accomplishing the object, and this even in cases where flatulence, acidity, or diarrhœa were among the symptoms of disorder habitually present and requiring relief.

"The singular and seemingly wayward appetites which are frequent in illness or during convalescence, and the gratification of which is sometimes even a remedy in our hands, give proof how much we have yet to learn as to the various states of the stomach, and their relation to different kinds of food. However difficult to apprehend, it is clear that this organ, together with the parts associated in the function, is often an exponent for the rest of the system of other wants

beyond those of mere quantity of aliment. And upon this remarkable instinct in the animal economy (for it is difficult otherwise to express it) depends, doubtless, the preservation of that balance among the constituents of the blood which is essential to the healthy state. In all diseases it is probable that this balance is in certain degree altered or impaired; in some certainly much more than in others. The anomalous appetites of illness and convalescence are often, it may be presumed, natural efforts to restore it. There is enough of authority for this view from observed facts, to justify the physician in keeping constant watch upon such suggestions, however fanciful in kind, separated by due caution, from certain obvious sources of error, they become frequent and valuable aids in the treatment of disease.

"Another fashion, as it may be termed, among rules for diet, has been that of limiting the more solid part of the food to one or two articles, under the idea that digestion is better performed upon simples than on food variously compounded. In dyspeptic complaints, or with any active disorder present,

there is general truth in the maxim. But even here limitation of quantity is more important than that of quality; and care is ever needful not to oppose our partial knowledge to the natural appetites just mentioned, when well attested to be really such. In ordinary health the habits of life rarely allow the rule to be persisted in, and the conditional objections to it are on this account of little moment: otherwise it might be urged that extreme simplicity in the kind of food is not required by any proof we have of its effects on health; and is even contradicted to a certain extent by the best experiments we possess on the subject. The researches of Dr. Prout, founded on a simple and just principle, have rendered more exact than before our knowledge of the elements of nutritious matter; and in referring them to three separate classes, with different chemical properties of each, have enabled us to understand the fitness of combinations of food, and even of some of the more artificial refinements which luxury has devised. It is obvious that there may be excess from a misproportion of these several elements; but it

is equally true in principle, that there may be fault on the side of limitation and simplicity; and this influence is justified by various experiments on animals attended with very remarkable results. The most striking of these experiments are derived from M. Majendie to whom we owe much in this part of physiology."

Sir Henry Holland, M.D., F.R.S., "On Diet and the Disorders of Digestion."

THE WINE QUESTION.

"The various questions regarding wine as a part of diet have always had much interest; and reasonably so, from their importance to the welfare both of individuals and communities. Here also much has been written, and many maxims and fashions are current; but without inferences precise enough to afford a rule for those who seriously seek it. It is difficult indeed to obtain this rule, where the results are so far complicated by individual temperament, by the kinds and qualities of wine, and by the various manner of its use. That it is powerful as a medicinal agent is

certain; that its habitual use, within fixed limits, is beneficial to some constitutions is equally so. But we have not less assurance that in numerous other cases it is habitually injurious, in relation both to the digestive organs and to the functions of the brain. And it may be affirmed generally (as a matter wholly apart from the enormous abuse of spirits among the lower orders) that the use of wine is far too large for any real necessity or utility in the classes which consume it in this country. Modern custom has abridged the excess; but much remains to be done before the habit is brought down to a salutary level; and medical practice is in general greatly too indulgent on this point to the weakness of those with whom it deals.

"It has been a maxim anciently, as now, that habitual excess in liquors is less injurious than in that of food.* And, with regard to

* This appears to have been the opinion expressed by the famous Celsus. Many other remarks on this subject might be quoted from the ancient physicians, remarkable for the truth of their application, notwithstanding the great diversity both as to the materials, and preparation of food, and the habits of life most pertaining to digestion.

wine, this may perchance be true. But we are hardly entitled thus to let off one evil by comparison with another, where each is in itself so great; and where they so often concur in fostering one common usage of excess, injurious to all the functions of life.

"As respects quantity, kind, and admixture of wine or other liquors, general rules of ready practical application are the best which can be given. Those which aim at being more precise involve such various conditions, that evasion on the part of the patient is easy, and sure to follow. Here, indeed, it is essential to engage his good faith and understanding in concurrence with the precept imposed, as the only protection against the facility of indulgence everywhere at hand. Even under the eye of the physician, appeal must be made more or less to his own observation of effects; and this observation, therefore, it should be an object of all rules to cultivate and direct with as little ambiguity as possible.

"Much may be done in this way. As regards quantity of wine, for instance, the tests of what is to be deemed excess lie within

the scope of ready remark, provided attention be fairly directed to the repetition of similar effects under circumstances reasonably alike. If the excitement of the spirits exceeds that of simple comfort (a condition not difficult to note), then it is certain that there is a state of brain, the frequent recurrence of which becomes a source of serious mischief both to body and mind. Or if, as happens in other constitutions, heaviness and drowsiness ensue speedily on the wine taken, equally is it certain that the quantity is in excess, and will be injurious in proportion to the frequency of repetition.* Or if a hot dry skin, and increasing thirst, the inference is the same, and the result no less assured. Or, again, if the early hours of the morning are languid and oppressed, with headache of one kind or another, foul mouth, and weak or disordered stomach, the '*hesterna vitia*' may fairly be called to account, and wine probably as principal among these."

* As regards the two opposite effects here noted, I believe it will be found that the latter is more common where the kidneys act but little under the influence of wine: a result, if correctly stated, which it may not be difficult to explain.

"The familiarity of such tests makes them more valuable for practical enforcement; and there are few cases where the patient may not obtain from them, if fairly dealt with, a sufficient rule for his guidance. The same tests will apply to kind of wine as to quantity; but more ambiguously, from the many new conditions brought in, which neither chemical examination, nor common experience, have yet been able to explain. The importance of the question is fortunately much less than in the other case. It is true here, as with regard to solid food, that, if the quantity be duly limited, the kind, though by no means to be disregarded, becomes of much less significance. It may even be doubted whether any practical good has hitherto been gained by our researches into, and classification of wines. The comparison of qualities, of the influence of which upon the body we are very slightly informed, gives a specious licence to the indulgence in certain kinds, often quite as hurtful as the more careless use of which the preference of the moment forms the only rule.

"We may admit, then, the simple tests just

stated as the best that can be had, either for medical precept or the self-direction of the patient. And, if strictly attended to, they would probably suffice for every purpose in practice. It may be added further that it is the part of every wise man, once at least in life, to make trial of the effects of leaving off wine altogether ; and this even without the suggestion of actual malady. The point is one of interest enough in the economy of health to call for such experiment, and the results can seldom be so wholly negative as to render it a fruitless one. To obtain them fairly, however, the abandonment must be complete for a time: a measure of no risk even where the change is greatest ; and illustrating moreover, other points of temperament and particular function, which it is important for every man to know for the right guidance of his habits of life."

"Medical Notes and Reflections." By Sir Henry Holland, Bart., M.D., F.R.S.

TRAVELLING FOR THE DYSPEPTIC.

"The recommendation of travel to dyspeptic patients is familiar and reasonable. Some caution, however, is needed, as to details; nor ought these to be considered below the notice of the physician. The dyspeptic cannot wisely be sent to travel alone. His sensations and habits govern him too strongly to admit of his being subjected to these without aid. His earlier way must be smoothed to him; and some concessions be made to his indolence and extravagant demands for comfort, for the better chance of surmounting them in the end. I have known many patients return from the experiment jaded and dispirited, with whom a more judicious plan would have prevented this disappointment. It is well, in the outset, to turn the line of travel away from the tumult of cities and spectacles. The dyspeptic cannot thus violently be removed from himself; and the failure of a first attempt renders others more difficult. Open or mountain air, varied scenery, yet avoiding any such

frequent change as may too greatly excite or fatigue the attention; occasional pauses in travelling, to obviate any heat or excitement that may exist, or to prevent such; the bodily exercise regular in amount, varied if possible in kind, and rarely allowed to pass into fatigue; short passages by sea, if they can be managed with comfort; early and regular meals and hours of rest; and due attention to the state of the bowels, by the mildest means adequate to the effect; all these points are worthy of attention in advising the remedy of travelling to the dyspeptic. Their importance, of course, varies in different instances; but I know, from a good deal of experience in such cases, that it is never wise to disregard them, as unimportant to the result. And this is the more true, as it is peculiarly the character of the dyspeptic patient to be incapable of determining these things for himself.

"Among the minor conditions to be looked to in stomach disorders, is that of habitual posture. The patient should be led as much as possible, to keep the trunk of the body upright, and thrown out freely in front. The

compression of the stomach, pylorus, and duodenum, by the bending of the body forwards upon itself, is exceedingly injurious to the functions of these parts; as is proved from the sensations produced by making this movement suddenly, and with some little effort, when the stomach is full. Disturbance to digestion is immediately felt in a sense of uneasy weight, continued or increased as the act is repeated. The frequency of stomach disorders amongst those of sedentary pursuits, is doubtless owing in part to habits of posture unfavourable to digestion, especially in its earlier stages.

"It may seem a trivial remark, yet is worth notice, that dyspeptics have frequently the habit of *touching or pressing upon the epigastrium*; a practice readily induced by uneasy sensations there, but bad in its effects on the complaint. Whatever the causes may be, no part of the body claims exemption so much as this from every interference. I have known the habit to such an extent in one or two cases, as to form a principal cause of disorder; the symptoms ceasing when it was discontinued.

"Another aid in the treatment of these complaints, deserving more notice than it receives, is the application of some uniform support amounting to slight pressure around the abdomen. Such pressure may be made and regulated in various simple ways. The dyspeptic gains by it, not only in the avoidance of many uneasy sensations from distension, and in the better performance of the functions which distension impedes, including the respiration as one of these, but also by the uniform warmth and freer circulation in the superficial vessels of this part of the body; effects of no small import to the healthy state of the internal membranes, the relations of which to the functions of the skin are so numerous and unceasing. The chest, as a matter of custom amongst us, is carefully watched over with reference to these effects; though it may be doubted, looking to the structure and function of the respective parts, whether such care is really more beneficial here than in the case before us. Be this as it may, we cannot question the value of such aids in stomach complaints; and are bound to consider them as enhanced by the simplicity

of the means employed, whether the patient so regards them or not."

"*Medical Notes and Reflections.*" *By Sir Henry Holland, Bart., M.D., F.R.S.*

THE ALCOHOL PROBLEM.

"A LARGE part of the problem of life, so far as its duration here is concerned, is solved when each can determine for himself what those pleasures are which can be enjoyed on the cheapest terms, and I think we shall find that certainly the enjoyment of alcoholic liquor, however delicious, is not, at any cost of health, an aim worthy to be attained. Still, I want you to bear in mind that life would be a very dull thing without some excitement; that I am by no means an ascetic; and that if I thought the giving up of wine and spirits—though I am not a teetotaller, I never drink them,—would pledge me in the least degree to an ascetic disposition, I should be tempted to begin to drink them to-morrow, because that is the last character to which a man who desires to be of use in his time and generation ought to aspire to.

"Our controversy, then, is with that great mass of people, as we take it to be, who believe that alcoholic or fermented liquors are good, necessary articles of diet for men, women and children; and I am afraid that we must confess that, however successful the cause of temperance may have been, that in dealing with these people we have still to deal with a very large proportion of the community indeed.

"There are two kinds of argument, as it appears to me, that must be used in reference to these masses. The first argument I shall call the physiological one—the argument which is derived from known facts elicited from the examination of man's constitution, and from things in general around us; and the second argument is the argument from experience. There are many thousands of persons who have tried both plans for themselves—not those who have tried only one, but those who have tried the two plans of adopting alcoholic liquors from their daily dietary, and expunging them for it altogether. The result has now produced a large body of experience, and this forms the second class of argument of which you will no doubt

receive fresh illustrations this evening. Now, in reference to the first part, or the physiological argument, I may, as 'preface,' appeal, I think, to a valuable 'chapter' on the subject which shall follow me, and I shall not say much about it; but there are two points in relation to it to which I shall briefly ask your attention.

"In asking you to listen to me on the first point, I do not do so with the least amount of diffidence, because I am satisfied that if my opinions do not altogether coincide with yours (and I may say at once that I do not come here to conceal those opinions, whatever they may be), I am quite sure that you will bear with me. I know you wish to hear from me what I believe to be the truth—and I know that what you desire before all things is that truth, whatever it may be. Well, then, first of all I believe that alcohol is of value to the human body under certain exceptional circumstances, and I shall found upon that fact one of the strongest possible arguments you can desire for not bringing it into your daily food. I think I can better illustrate what I mean by not using any scientific phraseology

whatever, but by telling you an incident which came under my notice. When not very long ago a well-known pedestrian laid a bet that he would walk fifty miles in a certain number of hours, I need not tell you that he exerted himself to the utmost to do it. You are aware that in training for such things, instead of taking a good deal of stimulant, which used to be the plan formerly, they train now upon a very small quantity of stimulant, and I am not sure whether some do not prefer to discard it altogether. That is a sign of the times well worthy being noted. This man walked forty-eight miles and was then knocked up. He declared he could not go any further. Whether that was loss of strength or loss of pluck you shall see. What his backers advised him to do was to drink a glass of brandy. He drank it, walked the two miles, and won the bet. Now that is just what alcohol can do, and it is nearly all it can do. When a man has lost, not all his strength, but has lost all his nervous pluck—when it is the nervous system and not the muscular one which has come to grief, then it is, that with stimulant the man does this: he draws a little bill on

the future, and it enables him to win his bet. Now I take it that it happens not unfrequently in life that we have to draw bills on the future. I will give you another illustration. You are too late for the train, and you are driving a valuable horse to save it, if possible. You spur and whip that horse, but I take it that you do not think by always whipping and spurring that horse you add to its longevity. Just so with alcohol. I take it—for now I speak of a matter of which I have not any experience—that if a man becomes involved in large pecuniary difficulties, he may go to certain dealers in money, under such circumstances, and pay what is called 60 per cent. for the accommodation he requires. That may, perhaps, at a large cost, tide him over the difficulty ; but you must all know well enough that is a condition upon which he cannot carry on daily business. Just so with alcohol.

" Now, in this way, I sometimes (not often) turn it to a very good account in medicine. I am here as a medical man, and I must tell you what my experience is, and it is not a small one, on that matter. I do not ordinarily

advise healthy people to take it, but I have known the time when a man who has been lying on the bed of illness, has lost, not all his strength, but his pluck; when his nervous powers have faded away, and when he does not care to live; and I know that under these and similar circumstances, if I can keep him afloat for a time when he is in danger of sinking, with something that goes down easily in the shape of alcoholic liquor, I have saved him; and I adjure you, as you love to further your cause of temperance, that you do not talk nonsense about putting any creature that we have out of our reach that we have within it, if we can ever do any good with it. The man of large experience finds this world full of unusual and unexpected incidents and conditions, and we want all our resources to meet them. You may call alcohol a 'poison' if you will, I care not for the name; all valuable agents in medicine almost may be ranked as poison, no matter what your creed or 'ism' in medicine may be. What I insist on is, do not tie my hand in the use of any one thing when I want to save a life and I know I can do it. But

do not I extract, for you and for myself, from this, one of the strongest possible reasons that we should not play with this two-edged tool in health—that we should reserve that force for service in the time of need?

"And now for my second remark. It is one that should be known in conducting this controversy, and you will excuse me if I say, from what I have seen of temperance literature, you do not sometimes take sufficient note of it. I want you to understand that there never was a greater truth than this, that the extent to which alcohol affects different people varies very, very greatly with the individual. There is no question that some people can take alcoholic liquor to a large extent, with a very considerable amount of impunity, while on the other hand, there are those who can take little or none without dire effects, and there is a long range or scale of difference between them. That is my observation, from seeing so large a portion of human nature as I do, under, not healthy, but medical aspects. It will not do, as you will presently see, to make certain sweeping delarations relative to alcohol that

cannot be sustained, and you can do no good in furthering this cause by doing so. What I want you to understand is, that there have been a certain number of people who could take wine for a long period, live a long life, and die healthy old fellows after all. The same holds good with other things, such as the smoking of tobacco. One man can smoke ten or twelve cigars in a day, and not be be apparently much the worse—I do not say he is any the better—and another man cannot take the mildest cigarette without being ill. We must not be too dogmatic. The more I see of life, the more I see that we cannot lay down rigid dogmas for everybody. I will tell you who cannot take alcohol, and that is very important in the present day. Of all the people I know who cannot stand alcohol, it is the brain workers; and you know it is the brain workers that are increasing in numbers, and that the people who do not use their brain are going down, and that is a noteworthy incident in relation to the future. I find that men who live indoors, who have sedentary habits, who work their nervous systems, and who get irritable tempers, as

such people always do unless they take a large balance of exercise to keep them right (which they rarely do), I say that persons who are living in these fast days of ours get nervous systems more excitable and more irritable than their forefathers, and they cannot bear alcohol so well. The instrument is in a different state of tension altogether to what the instrument was formerly. Such existed, of course, in all time, but compared with the present were much more rare. It is now a delicate nervous system which the slightest touch will tell upon. It is not the old clumsy thing that required a thump to bring out the tone. If the man with an irritable nervous system worked his muscles more, if he would take his ride or his drive, or his walking exercise more than he does, he would be better off. But in this London it is so difficult to do that, for first of all, it takes a long walk to get out of the town; and if he did so, he would not be in that irritable condition which the brain worker—I do not mean merely the literary man, the man of science, but the business man also—is generally in. But it is this

difference which makes alcohol disagree more with the present generation than it used to do with a former one."

"*Moderate Drinking.*" *Speech delivered by Sir Henry Thompson, F.R.C.S., at Exeter Hall, 7th February*, 1877.

THE SERVICE OF WINE AT TABLE—AËRATED WATERS.

"BRIEFLY: the rule, by gastronomic consent, for those who indulge in the luxury of wine, is to offer a glass of light pale sherry or dry Sauterne after the soup; a delicate Rhine wine, if required, after fish; a glass of Bordeaux with the joint of mutton; the same, or champagne—dry, but with some true vinous character in it, and not the tasteless spirit and water just now enjoying an evanescent popularity—during the *entrées*; the best red wine in the cellar, Bordeaux or Burgundy, with the grouse or other roast game; and—but this ought to suffice, even for that exceptional individual who is supposed to be little if at all injured by 'moderate' potations. With the ice or dessert, a glass of full-flavoured but

matured champagne, or a liqueur may be served; but at this place dietetic admonitions are out of place, and we have already sacrificed to luxury. The value of a cigarette at this moment is that with the first whiff of its fragrance, the palate ceases to demand either food or wine. After smoke the power to appreciate good wine is lost, and no judicious host cares to open a fresh bottle from his best bin for the smoker, nor will the former be blamed by any man for a disinclination to do so.

"For unquestionably tobacco is an ally of temperance; certainly it is so in the estimation of the gourmet. A relationship for him of the most perfect order is that which subsists between coffee and fragrant smoke. Wine and tobacco are antipathetic, the one affecting injuriously all that is grateful in the other; the aroma of coffee marries perfectly with the perfume of the finest leaf. Among the Mussulmen this relationship is recognised to the fullest extent; and also throughout the Continent the use of coffee, which is almost symbolical of temperate habits, is intimately associated with the cigarette or cigar. Only

by the uncultured classes of Great Britain and of other Northern nations, who appear to possess the most insensitive palates in Europe, have smoke and alcoholic drinks been closely associated. By such, tobacco and spirit have been sought chiefly as drugs, and are taken mainly for their effects on the nervous system —the easy but disastrous means of becoming stupid, besotted, or drunk. People of cultivated tastes, on the other hand, select their tobacco or their wines, not for their qualities as drugs, but for those subtler attributes of flavour and perfume, which exist often in inverse proportion to the injurious narcotic ingredients; which latter are as much as possible avoided, or are accepted for the sake of the former.

"But it may be assumed that, after all, those who drink water with that meal probably enjoy food more than those who drink wine. They have generally better appetite and digestion, and they certainly preserve an appreciative palate longer than the wine-drinker. Water is so important an element to them that they are not indifferent to its quality and source. As for the large class

which cannot help itself in this matter, the importance of an ample supply of uncontaminated water cannot be over-rated. The quality of that which is furnished to the population of London is inferior, and the only mode of storing it possible to the majority, renders it dangerous to health. Disease and intemperance are largely produced in relation to these two matters. It would be invidious perhaps to say what particular question of home or foreign politics could be spared, that Parliament might discuss a matter of such pressing urgency as a pure water supply ; or to specify what particular part of our enormous expenditure, compulsory and voluntary, might be better employed than at present, by diverting a portion to the attainment of that end. But for those who can afford to buy water, no purer exists in any natural sources than that of our own Malvern springs, and these are aërated and provided in the form of soda and potash waters of unexceptionable quality. Pure water charged with gas does not keep so long as water to which a little soda or potash is added ; but for this purpose six to eight grains in each

bottle suffice—a larger quantity is undesirable. All the great makers of these beverages have now their own artesian wells, or other equally trustworthy sources, so that English aërated waters are unrivalled in excellence. On the other hand, the foreign *siphon*, made, as it often is, at any chemist's shop, and from the water of the nearest source, is a very uncertain production. Probably our travelling fellow-countrymen owe their attacks of fever more to drinking water contaminated by sewage matter, than to the malarious influences which pervade certain districts of Southern Europe. The only water safe for the traveller to drink is a natural mineral water, and such is now always procurable throughout Europe, except in very remote and unfrequented places. *

"In the latter circumstances no admixture of

* Throughout France, St. Galmier; in Germany, Selters; in Austria and Bohemia, Gieshübel, are always obtainable, being the table-water of most repute, in each case respectively of the country itself. In all chief places in Italy, either Selters or St. Galmier, often both, are supplied by the hotels. In Spain these are not at present to be had, but the alternatives recommended are easily obtained.

wine or spirit counteracts the poison in tainted water, and makes it safe to drink, as people often delight to believe; but the simple process of boiling it renders it perfectly harmless; and this result is readily attained in any locality, by making weak tea to be taken hot or cold; or in making toast-water, barley-water, lemonade, &c. The table waters now so largely imported into this country from Germany and France, contain a considerable proportion of mineral matter in solution, and while they are wholesome as regards freedom from organic impurities, are, of course, less perfect for daily use than absolutely pure waters, such as those above referred to. Vaunted frequently as possessing certain medicinal properties, this very fact ought to prohibit their constant use as dietetic agents for habitual consumption, inasmuch as we do not require drugs as diet, but only as occasional correctives. Among them, the natural Selters, Apollinaris, Gieshübel, and St Galmier—but of this latter some of the sources are inferior to others, the best appearing now to be chiefly retained for Paris—are perhaps among the most satisfactory within

reach. A dash of lemon-juice and a thin cutting of the peel, form sometimes an agreeable addition; and nothing keeps the palate cleaner or in better order for appreciating food. I am compelled to say that the sweet compounds and fruity juices which have of late been produced as dinner drinks, and apparently in competition with wine, are rarely wholesome adjuncts to a dinner. Such liquids rapidly develope indigestible acid products in the stomachs of many persons; while for all the sipping of sweet fluids during a meal tends to diminish appetite, as well as the faculty of appreciating good cookery. If wine is refused, let the drink which accompanies dinner be of pure water—with a sprinkle of gas in it, or a slight acid in it if you will—but in obedience both to gastronomic and dietetic laws let it be free from sugar. No doubt there are exceptional circumstances in which fruity juices, if not very sweet, can be taken freely. Thus, I have rarely quaffed more delicious liquor at dinner in the warm autumn of Southern Europe, notably in Spain, than that afforded by ample slices of a water-melon, which fill the mouth with cool fragrant liquid; so slight

is the amount of solid matter that it only just serves to contain the abundant delicate juices of the fruit grown in those climates. Here the saccharine matter is present only in small proportion."

From "Food and Feeding." By Sir Henry Thompson, F R.C.S., &c.

ON THE PERIODS BEST ADAPTED FOR MEALS, AND ON THE INTERVALS WHICH SHOULD ELAPSE BETWEEN EACH.

"It is not extraordinary that a discrepancy of opinion should exist upon a question which involves so many fluctuating circumstances. Controversy upon this, as upon many other subjects of diet, has engendered a disbelief in its importance; and this scepticism has given a plausible pretext for indulgence on the one hand, and protracted fasting on the other, as the wishes or habits of mankind may have rendered most agreeable. It will, therefore, be difficult to convince the public of the necessity of those regulations which are so assential for the maintenance of health

or for the cure of disease. We have been told that the best time for dining is, '*for a rich man, when he can get an appetite, and for a poor one, when he can get food.*' But appetite in health is regulated by habit, and in disease it acts but as an imperfect monitor. Certain general principles, therefore, deduced from observation and experience, must be laid down for our guidance; and these again in their application must be modified and adapted to the circumstances of every particular case.

"All physicians concur in advocating the importance of regularity, both as it regards the number of meals and the periods at which they are taken. Those who have weak stomachs will, by such a system, not only digest more food, but will be less liable to those affections which arise from its imperfect assimilation, because, as Dr. Darwin has justly observed, they have, in such a case, both the stimulus of the aliment they take, and the periodical habit, to assist the process. The periods of hunger and thirst are undoubtedly catenated with certain portions of time, or degrees of exhaustion,

or other diurnal habits of life; and if the pain of hunger be not relieved by taking food at the usual time, it is liable to cease till the next period of time or other habits recur. As these periods must vary in every individual, according to the powers of digestion, the degree of exercise taken, the age, and the rapidity of growth,* as well as the quality of the food, it frequently becomes necessary, in civilised life, to have recourse to intermediate meals, or *luncheons*, in order to support the powers of the stomach during the long interval which may occur between the conventional periods of repast. But to the dyspeptic patent, in search of health, such indulgences are rarely to be permitted; unless, indeed, the circumstances under which he is placed leave him no option between long fasting and supplementary refection. I am more anxious to impress this precept

* Dr. Roget illustrates this subject by the caterpillar, which grows very quickly, and must repeatedly throw off its integuments during its continuance in the larva state; it accordingly consumes a vast quantity of food compared with the size of its body; and hence we find it provided with a digestive apparatus of considerable size.

upon the minds of invalids, as the anxiety of friends, and the popular errors which exist upon the subject of diet, are too apt to establish the mischievous belief, that '*a little and often*' will be more likely to restore the languid stomach to its healthy tone than moderate meals at more protracted intervals. The specious aphorism of Sir William Temple, that 'the stomach of an invalid is like a schoolboy, always at mischief unless it be employed,' has occasioned more dyspeptic disease than that respectable physician could ever have cured, had he been as successful in practice as Æsculapius, and his life been protracted to the age of an antediluvian. The natural process of digestion is thus disturbed, and the healthy action of the stomach, as evinced by the return of moderate appetite, is entirely prevented. In answer to this reasoning, the patient will sometimes tell you, that frequent refreshment is essential to his comfort; that a sensation of faintness obliges him to fly to such a resource, in order to rescue himself from the distress which it occasions. This, in general, is an artificial want, created by habit, and

must be cured by restoring the patient to regular meals, which is to be effected by gradually lengthening the intervals of eating. The animal machine possesses almost miraculous powers of accommodation, but then it must be trained according to its own laws; if you would conquer nature, you must obey her. But since no general rule is without its exceptions, so it may be observed, that there are cases of disease, in which the stomach is unable to bear any considerable quantity of aliment at one time, whence it becomes indispensable to repeat it at short intervals, in order to afford a sufficient proportion of nutriment; but as the patient acquires strength, such a system should be gradually abandoned.

"Although the advantage of regular meals at stated periods is generally admitted, it has been much disputed how many should be allowed in the day: some physicians have considered one, others two, three, or even five necessary. It is, perhaps, impossible to lay down a general rule that shall apply to every particular case. In some persons the food rarely remains longer than three hours

in the stomach; in others, four, five, or even six hours. It is evident, then, that the repetition of the meals ought to be regulated by this circumstance, always avoiding the extremes of long fasting and repletion. Some nations have been satisfied with one meal a day; but the stomach would thus be oppressed with too large a quantity, and in the interval would suffer from the want of some nourishment in it. Such a plan, therefore, is neither calculated for persons of robust health, and who are engaged in much bodily exertion, and consequently require large supplies, nor for those of a weak habit, who are not able either to *take* or to *digest* such a quantity of aliment in a single meal as will be sufficient to supply the waste of the body during twenty-four hours. Celsus recommends the healthy to take food rather twice in the day than once; and Sanctorius says, 'that the body becomes more heavy and uneasy after six pounds taken at one meal, than after eight taken at three; and that he who makes but one meal in the day, let him eat much or little, is pursuing a system that must ultimately injure him.'

When Plato returned that memorable answer to the philosophers, who inquired whether he had seen anything remarkable in Trinacria? '*Vidi monstrum in natura, hominem bis saturatum in die*,' he referred rather to the quantity, than to the *repetition* of the meals of Dionysius. In my own opinion, an invalid may safely take three frugal meals; or, on some occasions, even four, provided a certain quantity of exercise be insisted upon. It is reported that when Alexander the Great turned away his cooks, on proceeding upon a march, he observed that he had no further occasion for such assistants, as he carried with him superior cooks;—a long morning's journey to create an appetite for his dinner, and a frugal dinner to give a relish to his supper.

"I shall now consider the nature of the different meals, and the periods at which they can be taken with the greatest advantage; repeating, however, that all general rules must be modified in their application according to particular circumstances.

"BREAKFAST. This is, perhaps, the most

natural, and not the least important of our meals; for, since many hours must have intervened since the last meal, the stomach ought to be in a condition to receive a fresh supply of aliment. As all the food in the body has, during the night, been digested, we might presume, that a person in the morning ought to feel an appetite on rising. This, however, is not always the fact; the gastric juice may not be secreted in any quantity during sleep, while the muscular energies of the stomach, although invigorated by repose, are not immediately called into action: it is therefore advisable to allow an interval to pass before we commence the meal of breakfast. We seem to depart more from the custom of our hardy ancestors, with regard to breakfast, than any other meal. A maid of honour at the court of Elizabeth breakfasted upon beef, and drank ale after it; while the sportsman, and even the day-labourer of the present day, frequently breakfast upon tea. The periods of their meals, however, were so generally different from those of modern times, that we cannot establish any useful comparison between them,

without taking into consideration the collateral circumstances which must have influenced their operation. The solidity of our breakfast should be regulated by the labour and exercise to be taken, and to the time of dining. Where the dinner hour is late, we should recommend a more nutritious meal, or what the French call *un déjeûner à la fourchette*, in order to supersede the necessity of *luncheon*. At the same time it must be remembered, that dyspeptic invalids are frequently incommoded by such a repast, if it be copious. Heartburn is a common effect of a heavy breakfast, especially if it be accompanied with much diluting liquid; and a question has consequently arisen as to the propriety of taking much fluid on these occasions. Some have recommended a *dry breakfast*, as peculiarly wholesome: and we have been told, that Marcus Antoninus made it a rule to eat a hard biscuit the moment he got up. I think, however, it will not be difficult to show the reasons why liquids are essentially necessary at this meal. To say nothing of the instinctive desire which we all feel for them, it is evident that there is a

certain acrimony and rankness in all our secretions at that time; the breath has frequently a peculiar taint in the morning, which is not perceptible at subsequent periods of the day. This may be explained by the loss which the fluids of the body have sustained by perspiration, as well as by the quality of newly-elaborated matter introduced into the circulation during sleep. The experiments of Sanctorius have fully demonstrated the superior power of sleep in promoting the perspiration; insomuch, that a person sleeping healthily, and without any unnatural means to promote it, will, in a given space of time, perspire insensibly twice as much as when awake. This fact is sufficient to prove the necessity of a liquid breakfast. Nor must we overlook the highly active state of the absorbent system at this period of the day, arising, no doubt, from the expenditure of fluids to which we allude. This is shown by the facility with which invalids are enabled to dispose of large draughts of mineral water before breakfast, which at any other period of the day would be followed by the most painful oppression. It also

explains the nutritive and restorative influence of milk, when taken in the early morning. Every physician, in the course of his practice, must have been consulted upon the propriety of taking meat, tea, or coffee, at breakfast. I shall, therefore, offer to the profession the results of my experience upon this subject; and I am encouraged in this duty by a conviction of the advantages which have arisen from my view of the question. A person who has not strong powers of digestion is frequently distressed by the usual association of tea with bread and butter, or, what is more injurious, with hot buttered toast or muffin; the oily part of which is separated by the heat of the liquid, and remains in the stomach, exciting, on its cardiac orifice, an irritation which produces the sensation of heartburn. On such occasions I always recommend dry toast, without any addition. New bread, or spongy rolls, should be carefully avoided. Tea, to many persons, is a beverage which contains too little nutriment; I have therefore found barley-water, or a thin gruel, a very useful substitute. A gentleman some time since

applied to me, in consequence of an acidity which constantly tormented him during the interval between breakfast and dinner, but at no other period of the day: he had tried the effects of milk, tea, coffee, and cocoa, but uniformly without success. I advised him to eat toasted bread, with a slice of the lean part of cold mutton, and to drink a large cup of warm barley-water, for the purpose of dilution. Since the adoption of this plan he has entirely lost his complaint, and continues to enjoy his morning diversions without molestation. Hard eggs, although they require a long period for their digestion, are not generally offensive to the stomach; they may therefore be taken with propriety, whenever, from necessity or choice, the dinner is appointed at a late season.

"In the course of my own practice I have not unfrequently been called upon to advise a patient under the following circumstances. He rises in the morning without much inclination for breakfast; but such are his occupations that he is compelled to '*force down*' a substantial repast, in order to protect himself against the inanition which would

otherwise take place during the day, his dinner being unavoidably postponed to six or seven o'clock. Should he take but a moderate breakfast, he is compelled to eat a luncheon at three o'clock, by which his dinner is rendered indigestible. I will tell the reader the plan which I have usually directed with success under such circumstances. If, at your usual breakfast hour, the stomach should not yet be in the humour for food, take a cup of tea, or thin gruel, and a piece of dry toast, or a biscuit ; and, after the lapse of two or three hours, eat some cold mutton, a chop, or any other easily digestible meat. You will thus gain all the advantages of a substantial breakfast without its evils, and derive the profit of a luncheon without the chance of unfitting your stomach for the duties imposed upon it at dinner. The following passage is extracted from a letter which I lately received from a gentleman resident in the vicinity of London, whose mercantile engagements required his attendance in town every morning. 'I never was more obliged to any man than I am to you ; you may remember I some time ago applied

for your assistance under circumstances that rendered my life most uncomfortable; by following your advice the evil has been completely removed, and I absolutely feel ten years younger than I did eight months back. I hope that, in the next edition of your work, you will take some notice of my case, for the sake of those poor d—ls who may be suffering in a similar manner. I have been attentively perusing all you have said about breakfast, but I cannot find any allusion to the plan you recommended to me. You may, perhaps, not recollect the particulars of my case, and the difficulties in which this strange stomach of mine placed me. I told you that whenever I ate a hearty breakfast, I suffered for it the rest of the day; and, if I took a scanty one, I became so faint as to be obliged, in my own defence, to spoil my dinner by a luncheon. I now break my fast by a small basin-full of barley-water with milk, and a biscuit; two hours after which I find myself in trim for a chop, which carries me on comfortably till six o'clock, when I assure you I can make a most respectable dinner. The consequence of all this is, that I do not know

I have a stomach, except, indeed, when it civilly reminds me that it is twelve and six o'clock. You perceive I can now look the enemy in the face, and laugh at the terrors which formerly frightened me almost to death. Is not this a good sign?' Indeed it is, the very best and least equivocal sign of convalescence. If any of my medical readers should question the intimate connection between body and mind, between, as Sterne says, the outside and inside of a jacket which, ruffle but the one, and you will be sure to ruffle the other, all I can say is, that they must have very superficially observed the phenomena of disease.

"DINNER. Among the Romans this was rather considered as a refreshment to prevent faintness, than as a meal to convey nourishment. It consisted principally of some light repast, without animal food or wine; but in modern times it is considered the principal meal, at which every species of luxurious gratification is iudulged in. With regard to the proper period at which invalids should dine, physicians entertain but one opinion: it

should be in the middle of the day, or at about two or three o'clock. Sir A. Carlisle has justly observed, that it is thus best adapted to the decline of animal vigour, because it affords a timely replenishment before the evening waning of the vital powers, and which naturally precedes the hour of rest; besides which, the custom tends to prevent intemperance; while late hours and a consequent state of exhaustion demand, or seem to justify, an excessive indulgence in strong drinks, and in variety of food. The exact period, however, of dinner must be directed by the physician with reference to the necessary habits of his patient, the nature and time of his breakfast, and, above all, to the rapidity or slowness of his digestion. I will illustrate the importance of this precept by the relation of a case which lately fell under my own immediate notice and care. A gentleman, resident in a distant part of the country, applied for my advice under the following circumstances. His health was generally good, but he had lost all appetite for his dinner, and constantly experienced a sensation of weight and un-

easiness after that meal. I prescribed some laxative and bitter medicines, and after a fortnight had elapsed I again saw him. He then told me that he had not experienced the sensations of which he had complained for some time; but that the circumstance afforded him but little encouragement, as he had uniformly found the same beneficial change whenever he resided in London, which he was at a loss to explain, as he took the same exercise in the country. I then inquired whether the hour at which he dined was the same in both situations? When it appeared that in the country he dined at three, and in London at about six. I immediately suspected the origin of the complaint, and fortunately touched the spring which unfolded the whole secret: his digestion was remarkably slow, and the dinner in the country was served up before the breakfast had been duly digested. By my advice this evil was remedied, and he has never since had any reason to complain of want of appetite, or of the weight and oppression which had so long distressed him.

"Tea. I have stated my reasons for considering this repast as salutary; and where it is practicable, exercise should follow it.

"Supper. In the time of Elizabeth, the nobility and gentry were accustomed to dine at eleven, to sup between five and six, and to go to bed at ten. It is therefore evident, that any argument in favour of this meal, founded upon the healthy condition of our ancestors, must be fallacious. By supper, in modern times, we understand a late meal just before bed-time. But as sleep is not favourable to every stage of digestion, it is very questionable whether retiring to rest with a full stomach can, under any circumstances, be salutary.* During the first part of the process, or that of chymification, a person so situated may perhaps sleep quietly, unless indeed the morbid distension of the stomach should impede respiration, and occasion distress; but when the food has passed out of the stomach, and the processes of chylifi-

* "Ex magna cœna stomacho fit maxima pœna,
Ut sis nocte levis, sit tibi cœna brevis."
Schol. Salern.

cation and sanguification have been established, the natural propensity of the body is for activity, and the invalid awakes at this period, and remains in a feverish state for some hours. Upon this general principle, then, suppers are to be avoided; that is to say, *hearty* suppers, which require the active powers of the stomach for their digestion. The same objection cannot be urged against a light repast, which is generally useful to dyspeptics; and it has been truly and facetiously observed, that 'some invalids need not put on their night-caps, if they do not first bribe their stomachs to good behaviour." An egg lightly boiled, or a piece of dry toast, with a small quantity of white wine negus, will often secure a tranquil night, which would otherwise be passed with restlessness. Amongst the intellectual part of the community, there has ever existed a strong predilection in favour of suppers. The labour of the day has been performed, the hour is sacred to conviviality, and the period is one which is not likely to be interrupted by the calls of business. To those in health, such indulgences may be occasionally allowed,

but the physician should be cautious how he gives his sanction to their wholesomeness. The hilarity* which is felt at this period of the day must not be received as a signal for repairing to the banquet, but as an indication of the sanguification of the previous meal."

"*A Treatise on Diet.*" *By J. A. Paris, M.D., F.R.S.*

THE PREVENTIVE TREATMENT OF CALCULOUS DISEASE.

"You will find some persons with persisting uric-acid deposits at thirty years of age, or sooner, others at forty, others at sixty. Of course the earlier the time at which it appears, the stronger you will infer the hereditary disposition to be, and the more obstinate, probably, will be its tendency to persist.

"What, then, are the first signs of this condition in the patient? Usually, the first sign is that the urine deposits a pinkish matter, on cooling, at the bottom of the vessel, or that the secretion has merely become cloudy when cold. Sometimes, too, a delicate film or

*Breakfast has been considered the meal of *friendship*; Dinner, that of *etiquette*; and Supper the *feast of wit*.

pellicle covers the surface, which reflects faintly prismatic colours. It has been passed quite clear, becoming cloudy only when it acquires the ordinary surrounding temperature. This phenomenon, therefore, may appear more frequently in winter than in summer, because the external temperature is lower. It is simply a deposit of salts from a hot solution as the liquor grows cooler, all being easily dissolved by raising the temperature of the liquid to that at which it was originally passed. This is a condition of urine which very often and very unnecessarily excites much anxiety on the part of the patients, and only the persistence of which can be looked upon as a sign of what is called 'the uric-acid diathesis.' Mind, I mean strictly persistence, or at all events frequency of occurrence: for you or I, with no hereditary predisposition, may take a little more beer than usual, or an extra glass of champagne, or a glass or two of unaccustomed port, and find next morning a considerable quantity of this pinkish deposit, the urine looking almost like pea-soup, but not so thick, or like a mixture of rhubarb and magnesia;

and when the vessel is tilted on one side a tidal mark, so to speak, is seen, showing the height at which the liquor stood; all this, as I said before, being redissolved by heat. The opacity of the liquid, as well as its tint, which may vary from fawn to dull red, are due to the rapid production of the mixed urates, that is, urates of potash, soda, lime, &c. But if, without any errors of diet, of which any but a very small allowance of alcoholic drink is only one, a patient habitually passes this kind of urine—if in time there arrives also a frequent deposit of uric-acid, manifested by the presence of little crystals looking like particles of cayenne pepper at the bottom of the vessel—when this occurs rather early in life, say before forty, we cannot doubt that there is a strong tendency to produce uric-acid, either inherited or acquired. For this tendency may to a certain extent be acquired, or a pre-existing habit may be intensified; but, as I have before said, it is almost always inherited.

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"We have followed the complaint up to the formation of cayenne-pepper crystals. Of

this deposit I have some very good specimens here, which have been collected from patients who passed it habitually. These consist mainly of the transparent rhomboidal uric-acid crystals—which you know to be very beautiful objects under the microscope. They may be passed almost daily and habitually by some persons; while others will do so only every few weeks, but then in large quantity, which usually produces a good deal of irritation. At such periods the patient may experience pains in the back and great discomfort, and he may then be said to have an attack of sand or gravel. These attacks occur at varying intervals, and usually become more frequent or severe, unless the patient does something to prevent their occurrence. Afterwards he passes tiny calculi, popularly called 'gravel,' which seem to be rounded or irregular aggregations of the same crystals; and these little bodies tend in time to become larger, sometimes as large as small peas or even beans; and they are still specimens of the same product—that is of uric acid, associated more or less with some alkaline base, such as those above named.

"Now let me recall for one moment what I said as to the relation of gout to this condition. I have sometimes seen these two complaints alternating, comparing one generation with another; gout appearing in one, gravel in the second, and the gout in the third. But the same individual may also have alternating attacks of gout and gravel. I have seen a patient suffering for years from gout, which ceased for several months, when he developed for the first time a uric-acid stone. Lastly the so-called 'chalk-stones,' which you have often seen infesting the knuckles and disfiguring the hands of elderly people in advanced stages of gout, are composed of the same material—that is, of uric acid, usually as urate of soda. The identity of the two things, then, is unquestionable; they constitute two different series of phenomena, but both spring from one and the same root.

"Now what is to be done for these cases? What mode of treatment will help to prevent the arrival of at least the advanced condition —namely, that of calculus too large to be voided by the patient? Generally speaking, I think such patients come under observation

in a tolerably early stage, although this is by no means always the case. Some are much alarmed at a very early period when the urine is only thick with urates. You will of course disabuse such patients of their false impressions, because numbers of persons mistake such thick urine for highly organised matter. I have known persons to become almost hypochondriac through not knowing that such deposits are of little consequence at first, and can be easily treated. But what are we to do for those who habitually pass the cayenne-pepper crystals of uric acid or small calculi? You will first seek the patient's antecedents, and learn all he has to tell you of his habits, his diet, and his family history; and your mode of treatment will be determined accordingly. First of all, let me speak of the general principles upon which the treatment should be conducted. A very simple rule—indeed, too simple, I think—is often adopted. When the urine has persistently and habitually thrown acid deposits, the patient has generally been prescribed alkalies; if on the contrary he has had alkaline deposits, he has been treated with acids. That simple

mode has too often formed the main portion of the treatment. In the former case he has soda or potash largely administered, or he will be told to drink so many glasses of Vichy water, which is mainly a strong solution of carbonate of soda, only it is a natural instead of an artificial one. Now it is quite true that with alkalies, provided enough be taken, these deposits will disappear; the uric acid will no longer be deposited; the urine will become less irritating; the annoying symptoms will be diminished or got rid of. And of course the patient is very much pleased with this new condition of clear urine and disappearance of all deposit. And you will say, 'What more can be desired?' This: You have merely made his enemy disappear, but he is by no means rid of its presence; you have not checked the acid formation. The uric acid is there as much as ever; but the uric acid and the urates are soluble in alkali and you have only made them invisible. You really have the same condition as that of the fabled ostrich, which is said to put its head in the bush when pursued by hunters, and, no longer seeing them, to be-

lieve itself secure. Just such is the security of the patient who trusts solely to alkalies or Vichy water. His surplus deposits have become imperceptible to his vision; nothing more. I do not say the alkalies have been absolutely unserviceable as regarding his constitutional state, but they will not improve it to any great extent; and when he leaves them off the acid shows itself again. And further, I believe there is reason to conclude that large quantities of alkali habitually taken exercise an injurious influence on the viscera. Diuretics must be regarded in the same light. In those cases which are treated with diuretics, the secretion of water is no doubt increased *quoad* the amount of solids, and the solids are thus dissolved. In both instances what you have chiefly done has been to stimulate the kidneys, already overworked, to do more. You have by no means cured the patient.

"Now let us ask what is the real pathology of these cases, and then I think I shall be able to show you a more efficient remedy. The problem has presented itself to me with great force and frequency, because people, naturally fearing they may arrive at the stage of calcu-

lous formation, come for advice in the earliest stages, and with the strongest desire to avoid the advanced one of stone in the bladder. So far from its being desirable to send them to Vichy, or to give them alkalies, I believe such patients can be more effectually dealt with by a different mode of treatment. Let me premise in broad and simple terms—as our time here, and, I may perhaps add, the extent of our knowledge, will not permit me to be more minute or exact in detail—that the origin of what we call gouty symptoms, as well as of a superabundant uric acid deposit in the urine is due to defective assimilation on the part of organs associated with, or forming the primæ viæ. I am quite aware that it is common in practice to speak somewhat knowingly of the liver, its action, and its states, although we have still a good deal to learn about all this.

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"In speaking then of the 'defective action of the liver,' or of 'torpor of the liver,' I merely use provisional terms, which most will easily understand as indicating more or less distinctly a certain set of symptoms. Let

them be briefly described as mainly consisting of constant, or almost constant, deficient excreting power by the bowels, sometimes, but by no means always, associated with impaired appetite and slow or uneasy digestion; these latter being often absent if the diet is carefully selected, or if the patient lives in the open air and takes much exercise. On the other hand, considerable and multiform symptoms of disturbed digestion may be frequently present. I cannot positively state whether those phenomena are really due to inactivity of the organ in question; practically, for us to-day this does not much signify, but the current terms are still convenient formularies, until better ones can be substituted, for describing the condition in question.

"Now, at the bottom of this tendency to uric acid production there often lies what is thus understood as inactivity of the liver; and the true rationale of the unduly large formation of the urinary salts appears to be that, the liver or some allied organ not doing its duty as an excreting organ, the kidneys have more work than is natural thrown upon them. Thus the solid matters of the urine, or rather

some of its ordinary constituents, are augmented—not all of them, for urea is not necessarily increased, but uric acid is largely produced, and is eliminated not only in solution, but in crystalline forms. Uric acid is very insoluble in water; and although the quantity thrown out may be quite soluble at the natural temperature of the urine (100° Fahr.), when this diminishes to 60°, 50°, or 40°, the acid is deposited, and when the quantity becomes larger still, even the ordinary amount of fluid associated with it at a temperature of 100° will not suffice to dissolve the whole, and solid uric acid is deposited in some part of the urinary passages. This deposit may take place in the kidneys themselves, giving rise, if not thrown off, to the formation of Calculus, at first renal, but sooner or later mostly becoming vesical. Now if all this be so, the formation of uric-acid gravel is not by any means to be regarded as necessarily disease of the kidney; on the contrary, it is the result of an active and capable organ vicariously relieving some other organ, the function of which is torpid. The true remedy therefore

is not to stimulate the kidneys, already overworked—not, to use a familiar simile, to spur that horse of the team which is already doing too much work, but you are to seek the cause in that other one of the team which is doing deficient work, and that is almost invariably the liver, in the sense already explained.

"The treatment then which I advise you to pursue is to employ such agents as will stimulate the excretory action by the primæ viæ without depressing vital power."

"*The Preventive Treatment of Calculous Disease and the Use of Solvent Remedies.*" *By Sir Henry Thompson, F.R.C.S. &c.*

[It is only practicable to give here a small portion of Sir Henry's advice. The volume must be referred to for the valuable context.]

STERNE ON HEALTH.

"O BLESSED HEALTH! thou art above all gold and treasure! 'tis thou who enlargest the soul and openest all its powers, to receive instruction and to relish virtue. He that has thee, has little more to wish for! and he that is so wretched as to want thee, wants everything with thee."

THE MAINTENANCE OF HEALTH IN ADVANCED LIFE.

"In early life the digestive powers are strong and keen, and few things disagree with the growing youth; but as maturity is attained there is no longer that keen relish for food, and the appetite falls off, or requires the stimulus of temptation in the nature of the viands themselves. But such constantly recurring temptation tends to weaken the digestive organs, and rich food and generous wine may only be consumed with impunity when taken in moderation. As time goes on, first one thing is found to disagree and then another, a little only being tolerated at first, but ultimately total abstinence is necessitated —no portion, however small, is without its disturbing effect. No rules, however, can be laid down as to this, for one thing will disagree with one and another with another. Quantity, however, is always an important matter, and small loads alone can be borne by the enfeebled organs. Digestion is much slower as well as less vigorous in the old, and

consequently easily digestible food becomes necessary. The richer dishes and savoury food, once so esteemed, are gradually given up, after repeated admonitions; and the quantity of meat, especially lean meat, consumed is usually much diminished, instinctively and intuitively. There is indeed a distinct tendency to return to the simpler forms of food proper to and preferred during childhood. In very old people the diet becomes once more largely farinaceous and saccharine, and meat is little craved after. This is a fortunate selective choice, as the digestibility of these forms of food suits the enfeebled organs. While the stomach has lost much of its power, and the digestion is impaired, the action of the bowels has lost much of its pristine energy, and constipation is commonly present, and is a great source of discomfort. Laxatives are commonly found indispensable, and the mineral waters of Vichy, Carlsbad, Pullna, and Friedrichshall are indicated, and form with a glass of wine, or spirits, a useful and not unpalatable medicine as well as a beverage.

"Some such medication is indicated in most

elderly people whose digestive systems are very sensitive to any load in the bowels. There is another strong reason why such medications should be resorted to, viz. the injurious effects of straining at stool upon the different parts of the body. This should always be avoided, and if the bowels do not move easily, the attempt should be desisted from, and some time allowed to elapse, and if necessary some medicine taken, ere another attempt be made. Long exposure to cold should also be avoided, and the elderly should avoid conveniences which are so situated as to be cold or draughty. Piles or hæmorrhoids are also outcomes of neglected bowels. In many cases the enema may be resorted to with advantage, especially to avoid straining.

"This attention to the bowels is desirable for its effects upon other organs, and especially upon the liver. In early and adult life the exercise taken is usually sufficient to maintain the action of the liver and to secure its efficient working; but as age creeps on and the locomotive powers are affected, the liver is deprived of these collateral aids, and so is liable to be laden with bile and to be easily

deranged. An accumulation is not so easily cast off now as it was when the bowels were active, and so slighter causes are found to be disturbing, and restoration to the healthy condition is slower and less easily effected. Rich food, especially when consisting largely of fat, is very apt to disagree with elderly people, and they commonly suffer for any such indulgence. Not only are these passing ailments to be avoided for themselves and the discomfort they occasion, but they act perniciously in inducing repeated congestions of the liver, which in time lead to disease.

"The kidneys too are affected by any loading of the bowels, and at these times the secretion is thick, odorous, and high-coloured, and not unfrequently scanty. At other times in the elderly this secretion is profuse and troublesome, especially at nights, disturbing the persons' rest, and exposing them to cold from having to get out of bed to attend to these calls. Such arrangements should be made as to reduce the exposure to a minimum, and various appliances are now procurable at most surgical-instrument makers. There is also no greater trouble connected with the

oncome of age than a highly sensitive condition of the urinary organs, so that not only are the calls frequent, but there is an urgency about them unknown to the young. Travelling becomes, under these circumstances, a source of much discomfort to the aged, especially in our express trains with their long runs betwixt station and station. This long run and the brief stay, scarcely admitting of time to reach a convenience when the halt is made, make travelling very irksome to the aged ; but here again the surgical-instrument maker may be resorted to with advantage. This irritability of the urinary system is often so great as to interfere much with the avocations of the aged, and is a source of much inconvenience to them. The varying changes in the bulk as well as in the appearance of the urine are often sources of anxiety to elderly persons, often unnecessarily so ; especially after a common cold, and mostly when it is 'breaking,' the urine is scanty, with a heavy deposit of a white or pink red colour, often occasioning some alarm. It is really not an untoward sign—indeed is an acceptable circumstance, preceding and indicating

the yielding of the cold. Retention of urine of course needs surgical aid, and so does incontinence in the male, however difficult it is at first sight to believe this. Incontinence here means not that the bladder will not retain its contents (the ordinary impression), but that it is permanently and persistently overfull; as the surgeon will soon demonstrate.

"In all the medication of the old, it is desirable that carminative and stimulant substances be added to the remedial agents employed, and this should never be forgotten.

"In the aged the organs do not and cannot assist each other to the same extent that they do in earlier years, and so when the kidneys are unequal to their work, the skin no longer affords the aid it once furnished. Indeed, the skin gradually becomes very inactive and dry, and no longer responds so readily to the bath and other stimuli as it once did. It is said that this inactivity of the skin is the origin of the foul and disagreeable odour found in the breath of many middle-aged and elderly people. Attention to the skin is a desirable matter, both from a hygienic and a

social point of view. This inactivity of the skin demands further that the bowels should not be neglected. (While thus insisting upon attention to the bowels, it must not be supposed that I am an advocate for habitual purgation.) Any load will make the breath all the more offensive.

"At the time that these changes are going on in the abdominal viscera, certain changes are inaugurated in the chest and the organs contained therein. The lungs are less elastic than they once were; they play less readily, and are more easily torn by respiratory efforts. The air tubes become liable to attacks of inflammation — bronchitis — an ailment which infests both extremes of life, and is a fatal malady to children, especially babies, and to elderly people; more especially if the strength be already failing. Not only do acute attacks of bronchitis often supervene, but a chronic condition of inflammation is not uncommon. This leads to shortness of breath, cough, and expectoration, and not uncommonly to serious organic changes. Great and rapid changes of temperature should always be avoided by the

old, as very liable to set up inflammatory mischief. The respiration of the elderly is more laboured, and more a visible effort than it is in earlier days, and so the general movements should be slower and quieter. This change of locomotion is often irksome though imperative, and is the more necessary that the heart in old persons is not equal to sudden demands upon it. It is often altered both in size and in its textural integrity, and is not able to cope with urgent demands upon it. What would only produce a fit of violent action or palpitation in the young, produces fatal disturbance in the action of the heart in the old. This is very commonly seen in the results of chasing an omnibus. In the young, a little violent action of the heart is felt, which soon goes off without any unpleasant consequences ; in the elderly a dangerous attack of cardiac asthma may be so induced, and not uncommonly sudden death is the penalty paid for such exertion. All sudden action on the part of old persons is very undesirable, and tests too severely the internal organs, no longer in their pristine integrity.

Elderly persons are much more liable than are the young to sudden death, either from failure of the heart's action, or from rupture of a blood-vessel in the brain (apoplexy) or elsewhere. For the blood-vessels become less elastic, and even brittle, in old age, and the heart grows larger in order to carry on the circulation in these rigid vessels; consequently rupture of a diseased blood-vessel is no uncommon thing. All effort, all sudden exertion, all straining are to be avoided as age comes on, as being dangerous or harmful in their effects upon the internal organs; not only that, but hernia, or rupture of the abdominal wall, is now easily induced. This latter is a common accident to elderly persons, especially those who must labour for a living, and is a source of danger as well as discomfort. Herniæ should always be attended to, and trussed up by a proper and well-fitting truss, under which circumstances the danger to life is small. But trusses must fit well and closely to be of use, and a broken, or mended, or worn-out truss is of no real use, and only lulls its owner into a false sense of security.

"The altered conditions of the organs of respiration and circulation, no less than the impaired condition of the muscular system, entail a change of habits as years creep on. Elderly people, however, are extremely unwilling to admit even to themselves, let alone to others, any feeling of failing strength or power, and often persist in their old habits long after they feel that some modification is desirable. Thus they will go out for their accustomed walk, and run the risk of showers, or of accidents, and then suffer afterwards for the efforts they have made to escape the primary troublesome consequences of their persistency. There is every reason to believe that, in a large proportion of the cases of sudden death in elderly persons, which seem almost unaccountable and without provoking cause, there has been some effort, or other harmful action, not long preceding the death, which has been carefully concealed, with the reticence habitual to the aged."

Dr. Fothergill "On the Maintenance of Health."

DR. GARROD ON ALCOHOL.

"My counsel to patients as to the time of taking alcohol is this: 'Never take any before the mid-day meal;' and to many it is prudent to advise them to wait till a late dinner before indulging in any such beverage.

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"I am fully of opinion that individuals in whom the nervous system is much taxed require a moderate quantity of alcohol far more than those who are accustomed to great physical exertion; it is mental rather than physical labour which demands it. By the former the digestive powers are often lowered in tone through the exhaustion of the nervous system; by the latter, on the other hand, both the digestive and the nutritive functions are usually enhanced."

"*The more haste, the worse speed.*"

—Old Proverb.

IDIOSYNCRACY OF THE STOMACH.

"UNDOUBTEDLY all stomachs have their own peculiar idiosyncrasy; and I do not pretend to put myself up as an authority upon all dietetic matters, but certain doctrines I will never give up, upon a principle of obstinacy entirely my own. These especial points of my obstinacy may be summed up in a few general rules; and the first is *moderation*. With this as your weapon you may defy all the Doctors. Secondly, if by any chance you should sacrifice to Epicurus a little too devotedly, all I ask is to give me *rest*, that I may profit by that grand and beautiful law, the *Vis Medicatrix Naturæ*, which often proves so great a friend to the medical practitioner, that, even in spite of physic, he reaps all the credit and reward of Nature's exertions."

"*Memoirs of a Stomach, written by Himself, that all who eat may read. Edited by a Minister of the Interior (Sydney Whiting.)*"

AVOID EMOTION AFTER MEALS.

"WHAT is true as to bodily exercise after food is almost equally so as to mental emotion or intellectual labour. Neither with sound nor unsound digestion ought there to be any intent exertion of mind at this time. Strong or sudden emotion, from whatever cause, will instantly disturb or even stop the whole function; and short of this there is every degree in which the mental feelings habitually derange it. To this cause we may in some part attribute the frequent occurrence of dyspepsia in middle life, when the excitements are more active and various, and the passions inflict greater disturbance on the body. Their influence is familiar to observation in the sensations of the moment, and not less in the symptoms which arise from repetition of the disturbance. *Two or three days of continued anxiety will bring disorder and debility into all the actions of the digestive organs, however healthy their previous state.*"

Sir Henry Holland on "Diet and Disorders of Digestion."

"STOMACH COUGH" AND "STOMACH SORE THROAT."

"THESE are best treated by not sitting down to breakfast without having gargled the throat with alum water, or sprinkled the back of the fauces with dilute hydrosulphurous acid. If the mouth is foul and the breath heavy of a morning, a cleansing with a weak wash of Condy's Solution is also a good preliminary to eating."

PROLONGED MENTAL EXERCISE.

"VERY prolonged mental exercise is still more injurious. . . . . It not only produces immediate results of an inferior kind, qut it incapacitates the faculties for the production of better results in future, even though the amount and degree of the exercise should then be only legitimate. The brain, or some part of it, becomes morbidly affected, functionally if not structurally; and it may require years of repose for its restoration, if it can ever be restored to its pristine

soundness. This is one of the most common diseases encountered by physicians among literary and professional men and men of business."

Sir John Forbes, M.D., F.R.S., on "Happiness in its Relations to Work and Knowledge."

THE SAGE OF "THE SOBER LIFE"—LUIGI CORNARO.*

"EVERYBODY knows the name of Cornaro and much at various times has been written about him. Indeed not many books of the same size as the little treatise concerning the 'Sober Life,' on which his fame rests, have called forth a larger number of criticisms and discussions. Yet few, we suspect, even of cultivated people, have ever taken the trouble to read it. Slight as the book is, it has, and will hold, a permanent place in Italian and in general literature. To those who have not read it, Cornaro is simply the famous valetudinarian who, by dint of strict temperance, reached the age of a hundred. Readers of

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the book, on the contrary, remember him chiefly as one of the most *naïf* and charming of autobiographers. It is true that Cornaro's book, like his life, was on a small scale. There is in him none of the psychological interest which belongs to the self-revelations of a powerful intricate nature. In this respect he forms a contrast too striking to have escaped the notice of any reader with his contemporary, Benvenuto Cellini. It would be absurd to put Cornaro's narrative on the same level with that of Cellini. Cellini was one of the most remarkable and many-sided men in an age singularly fertile in vigorous and original natures; and his autobiography, notwithstanding the air of insincerity which his vanity and malice at times give to it, is on the whole a faithful reflection of his character. But, like much of the literature of the period, it leaves a bad taste in the reader's mouth. One might fancy after reading it, that mankind was made up of nothing but clever scoundrels and their dupes. Cornaro leaves in one's mind the impression that, after all, the world would be a charming place to live in if only people

would not eat and drink too much. The burden of the universe is to him this and nothing more. All the ills that flesh is heir to come from this source ; and, having found such to be the fact in his own case, and inferred it to be so in the case of others, he sits down to write his own experiences, in the ingenuous belief that, if he gives a true account of them, his readers cannot fail to follow his example.

"Luigi Cornaro was born at Venice about the year 1467, though the exact dates, both of his birth and of his death, are variously given. He belonged to one of the old families in the city. One of the Cornari, Marco, who died just a hundred years before Luigi's birth, was Doge ; and three other bearers of the same name attained the same distinction after his death. Owing to circumstances with which we are imperfectly acquainted, he was deprived of his position at Venice and compelled to withdraw to Padua, which he henceforth made his chief home, retiring during the summer to his two country houses. He began life with a bad constitution, and a long course of excess had,

by the time he reached the age of thirty-five, reduced him to a state of extreme misery. For four or five years he remained in constant bodily and mental suffering. Gout began to lay hold of him; he was tormented by pains in the stomach and by perpetual feverishness and thirst. His physicians pointed out to him that his chronic ailments must have their cause in his habitually disordered life, and urged him again and again to change it. He was long convinced of the truth of what they said to him before putting their advice into practice. For a while he pretended to follow it, still eating and drinking as before, and concealed the fact from his doctors—'as all patients do,' he adds with some humour. At last he found the strength of will to adhere regularly to the diet and mode of life prescribed for him; and at the end of a year he found himself, instead of a broken-down, hopeless invalid, unfit for either work or enjoyment, a healthy and singularly active and happy man. He then came to the natural conclusion that the regimen which had overcome the effects of his excesses and repaired the natural weak-

ness of constitution must be the one to keep him permanently in good health; and from that time onwards, during the sixty years which remained to him of life, he never, except in the rarest instances, and then to his hurt, swerved from it. He had more than completed his eightieth year before he set himself to write down his own experience for the benefit of others. During forty years he had lived a life of almost unbroken health and happiness—a life which contrasted as much with that which he had himself led in his earlier days, as with that which he saw commonly lived by others around him. One consideration weighed upon him especially—namely, the greater value of the later as compared with the earlier years of life. Many men, he argues, by the time that they have acquired the knowledge, judgment, and experience which qualify them to be useful in the world, are physically, in consequence of their careless living, worn out. Men who might live, in full possession of their faculties, to the age of ninety or a hundred, pass away at the age of fifty or sixty. Many who, as he puts it, might 'make the world

beautiful,' are cut off untimely through the same cause. This feeling, joined to the amiable vanity of a happy and prosperous old age, prompted him to lay his experiences before the world.

"Cornaro's regimen—which consisted of eggs, soup, bread, pancakes, and such-like food, with wine—was, as he tells us, intended for himself alone. All people should live temperately, but the temperance of one man is the excess of another. Cornaro's method is the simple one, that each man should find out for himself what is the suitable quantity of food and drink for himself, and then live accordingly. The charm of Cornaro's narrative consists in the garrulous *naïveté* with which he sets forth his simple creed and practice. Italy, he says, was suffering from three great evils—first, from flattery and ceremonies; secondly, from the effect of the Lutheran doctrines; thirdly, from debauchery. These three evils, or rather 'cruel monsters of human life,' have destroyed respectively social sincerity; secondly, the religion of the soul; thirdly, the health of the body. The two first plagues he leaves to be dealt with

by some 'gentili spiriti,' who will banish them from the world; the third he undertakes to extirpate himself, being convinced that Italy, before his death, will return to her former 'fair and holy manners.' To this end he gives his own practice as an example to be followed—at least in its aim and spirit. His daily allowance of food was three rolls, the yolk of an egg, with meat and soup—the whole weighing twelve ounces; his daily allowance of wine was fourteen ounces. On one occasion, after he had slightly increased the quantities, he became in a few days 'choleric and melancholy,' and soon fell into a violent fever, from which he only recovered by returning to his former regimen. He never ate or drank to the extent of his appetite; avoided extremes of heat and cold; was careful to have sufficient sleep. To keep clear of grief, melancholy, hatred, and other perturbations of the mind was also an essential part of his system; though temperance in eating and drinking will do much to counteract mental troubles, as well as to neutralize the effects of bodily hardships. Once when powerful enemies brought

a suit against him, he kept his equanimity, and won his case in the end; while his brother, who had led an irregular life, died of anxiety while the case was still going on. If men were but temperate as he was himself, they would live to be a hundred years old. He himself intended to do so, and to die at last, not of disease, but of 'pura resoluzione.' If he had had a good constitution to start with, he would reach one hundred and twenty years instead of only a hundred. He did, in fact, die very nearly at the age of a hundred, if he did not surpass it. He is sure that, having on earth led a life pleasing to God, he will by His mercy enjoy the heavenly life after death. Until he adopted the temperate life he never 'knew that the world was fair.' The intemperate 'fanno brutto il mondo.' Even the deaths of relations and friends trouble him little, so calm and equable had his temper become. These and other doctrines to the same effect he published in his first treatise, written when he was at the age of 83; three years later he followed it up by a second, the 'Compendio della Vita Sobria';

five years later still he published a third; and, finally, at the age of ninety-five, he brought out his 'Loving Exhortation,' urging his readers to do as he had done, and to enjoy the happiness that he had found. Not a little of it, he tells us, was due to the fact that many of them had followed his advice. But the picture of a happy old age which he paints must be given in his own words. To those who call life after the age of sixty-five 'a living death' he thus makes answer:—'Let them come and see, and wonder at my good health; how I mount on horseback without help; how I run upstairs and up hills; how cheerful, amusing, contented I am; how free from care and disagreeable thoughts. Peace and joy never leave me. My friends are wise, learned, and distinguished people, of good position; and, when they are not with me, I read and write, and try thereby, as by all other means, to be useful to others. Each of these things I do at the proper time, and at my ease, in my dwelling, which is beautiful, and lies in the best part of Padua, and is arranged, both for summer and winter, with all the resources

of architecture, and provided with a garden by the running water. In the spring and autumn I go for a while to my hill in the most beautiful part of the Euganean mountains, where I have fountains and gardens and a comfortable dwelling; and there I amuse myself with some easy and pleasant chase which is suitable to my years. At other times I go to my villa on the plain; there all the paths lead to an open space, in the middle of which stands a pretty church; an arm of the Brenta flows through the plantations, fruitful, well-cultivated fields, now fully peopled, which the marshes and the foul air once made fitter for snakes than men. It was I who drained the country, and the air became good, and people settled there and multiplied, and the land became cultivated as it now is; so that I can truly say, "On this spot I gave to God an altar and a temple, and souls to worship him." This is my consolation and happiness whenever I come here.' After further describing his pursuits, he goes on to add:—'And these enjoyments are not diminished through weakness of the eyes or the ears; all my

senses (thank God!) are in the best condition, including the sense of taste; for I enjoy more the simple food which I now take in moderation than all the delicacies which I ate in my years of disorder. . . . These are the true recreations of an old age which God has permitted to be healthy, and which is free from those mental and bodily sufferings to which so many young people and so many sickly elder people succumb. And if it be allowable to add the little to the great, to add jest to earnest, it may be mentioned that, as the result of my moderate life, in my eighty-third year I have written a most amusing comedy, full of blameless wit. Such works are generally the business of youth, as tragedy is the business of old age. If it is reckoned to the credit of the famous Greek that he wrote a tragedy in his seventy-third year, must not I, with my ten years more, be more cheerful and healthy than he ever was? And that no consolation may be wanting in the overflowing cup of my old age, I see before me a sort of bodily immortality in the persons of my descendants. When I come home I see before me,

not one or two, but eleven grandchildren, between the ages of two and eighteen, all from the same father and mother, all healthy, and, so far as can already be judged, all gifted with the talent and disposition for learning and a good life. One of the younger I have as my playmate, since children from the third to the fifth year are born to tricks; the elder ones I treat as my companions, and as they have admirable voices, I take delight in hearing them sing and play on different instruments. And I sing myself, and find my voice better, clearer, and louder than ever. These are the pleasures of my last years. My life, therefore, is alive and not dead; nor would I exchange my age for the service of such as live in the service of their passions.'

"There are few books about which more has been written than the one little volume which contains all that Cornaro has left. Probably the most curious of the many criticisms or answers to which it has given rise is the *Anti-Cornaro*, which was published in Paris in the year 1702. The name of the author is not given, but he is stated in the preface

to have been a 'fort habile homme.' The object of the treatise is to prevent the harm which might arise from following the advice of 'ce Venetien,' as Cornaro is called. Most of the objections taken to the 'Sober Life' seem to show that the writer had either not read Cornaro at all, or read him in some mutilated translation; but the language in which the objections are stated is often ludicrous in the extreme. The whole performance, indeed, is much in the style of a Thomas Diafoirus. The writer blames Cornaro for not giving a more exact account of the manner in which he divides his daily food. If, for example, Cornaro takes one egg a day, does he divide it into as many portions as he takes meals? Does he again, marry the nymphs with Bacchus, *i.e.* mix water with his wine? Cornaro confounds (which is not true) sobriety with his own severe regimen. The latter 'emaciates and dries up the body, mortifies the spirits, and consumes the radical moisture.' Hippocrates, Aristotle, Galen, Dionysius the Tyrant of Syracuse, and Pliny all condemn it. The Israelites, again, were fed with manna in the wilder-

ness, and each man was to take an omer of it, or, as the writer puts it, a 'gomor.' Now the learned Tirinius has calculated that a 'gomor' contains fifty ounces of this 'viande fort nourissante,' and the quantity, fixed by Divine prescription, must needs be a reasonable one. It is true that this is the diet of a strong man; but weakly persons would be allowed half, which would be double Cornaro's allowance of solid food. Cato, too, 'ce grand econome,' gave his slaves forty-eight ounces, even when they did not work. But probably the moisture of Cornaro's stomach, his 'phlegme doux,' was itself no slight source of nutriment to him. So far, indeed, is temperance from being always a good thing that 'Sylvius, an excellent physician of the previous century, who practised medicine at Paris with great distinction, recommended a debauch once a month in order to keep the forces of the stomach in exercise, and to prevent them from becoming languid and indolent.' Abstinence, besides destroying the 'commerce de la table,' has the further and more serious disadvantage that

it 'dries men's brains, exhausts the source of their animal spirits, and renders it hard for them to cultivate the arts and sciences and to practise virtue.' Cornaro and his followers, like foxes who have lost their tails, wish to see other people in as bad a plight as themselves; and, for one person whom this regimen suits, there are 'thousands' whom it hurries to a premature grave.

"Such are the advantages and disadvantages of temperate living as set forth by Cornaro and by his critic. There is certainly no danger that the latter will find too few followers."

THE INFLUENCE OF CIVIC LIFE.

"In civilised society thousands moulder away their lives in mental torpor and apathy, who by a proper attention to the functions of the liver and digestive organs, would soon evince an energy of mind and activity of body that might render them useful if not distinguished members of the community.

"But this is not all. Conjugal and

domestic happiness is every day blighted and turned into misery by *irritability of temper*, resulting, unequivocally, from derangement of the biliary and digestive organs, while the cause is supposed to be of a *moral* nature, and consequently the proper remedies totally neglected. There is indeed another unsuspected source of this evil, of which I may take some notice on a future occasion. Meantime, I may state that whenever a change in the temper or mind of a man or woman takes place, without a plain and manifest moral cause, the condition of the liver and digestive organs should be minutely examined and accurately ascertained; for there the origin of the mischief will, three times out of four, be discovered: nay, where the *mental* disturbance has evidently arisen out of circumstances quite foreign to *corporeal* ailments, it will be found that the *latter* have quickly supervened, and are perpetuating if not aggravating the evil."

Dr. James Johnson.

GORGING AND PURGING.

"As by far the greater number of our maladies flow from repletion, or the excessive indulgence of food and drink, so an open state of the bowels, or rather a periodical evacuation of them by purgatives, would obviate a very great proportion of the disorders we incur.

"Man will not abstain from animal food two days in the week; but he will take a couple of doses of physic as an alternative—and it is the best alternative we have."

Dr. James Johnson's Treatise "On Derangements of the Liver, Internal Organs and Nervous System."

MEN ARE LIKE PEARS.

"MEN often remind one of pears in their way of coming to maturity. Some are ripe at twenty, like human jargonelles, and must be made the most of, for their day is soon over. Some come into their perfect condition late, like the autumn kind, and these last better than the summer fruit; and some, like the

winter helis, have been hard and uninviting until all the rest have had their season, get their glow and perfume long after the frost and snow have done their worst with the orchards. Beware of rash criticisms; the rough and stringent fruit you condemn may be an autumn or a winter pear; and that you picked up beneath the same bough in August, may have been only its worm-eaten windfalls. Milton was a Saint Germain, with a graft of the roseate Early-Catherine. Rich, juicy, lively, fragrant, russet-skinned old Chaucer was an Easter Beauné; the buds of a new summer were swelling when he ripened."

Dr. Oliver Wendell Holmes in "The Autocrat of the Breakfast Table."

WORDS OF HOPE AND COMFORT FOR THE MIDDLE-AGED.

(PARTICULARLY IN TIMES OF TROUBLE, WHEN THE PHYSICAL AND THE MENTAL ARE STRONGLY COMBINED.)

"WELL, thinking of the want of money, and of the straits and anxieties which come of it, one thinks of such a person as the father or mother of a family; and of sorry schemings to make the most of waste pieces, dripping, suet, bones, and cinders. One thinks of people with an income a great deal larger, who, in relation to their different position, may have just as hard and ceaseless a battle, though not exactly in the same way. Think of Sydney Smith, at his dismal Yorkshire living. It was £400 a year, and he had various methods of adding something to it; yet you know how, for all his cheerful temperament and his 'short views,' he would sometimes, as he sat in the evenings looking over his accounts, and planning how to pay them, fairly break down, bend his head upon his hands on the table, and burst out, 'Ah, I

see I shall end in gaol!' There must have been a constant heavy pressure always on that brave heart, before Sydney Smith, with his stout nervous system and his splendid circulation, yielded thus! And I don't know a picture that touches me more deeply, than that of man or woman, the father of a family, or its widowed mother, sitting up after the rest have gone to bed, adding up accounts, which there are very scanty means to pay, and scheming hard to make ten shillings do the work of twenty. Cannot you see such a one, not able to add the figures rightly; casting up some column of figures ten times over, and ten times getting a different result from all the rest; looking with pure terror for what the awful amount will be; and all this with trembling hands, a throbbing, confused head, and a heart far heavier than lead? All this may be borne with little outward appearance. But rely on it, it is telling. It is wearing the poor heart out. It is sapping life.

"How the least movement will jar at such a time miserably on the shaken nerves? A little child stirring in the room will make the

figures incapable of addition; even the poor cat is apt to be angrily ordered out. And then the awful prospects of the future; the sickening calculation of what will become of the children; the scheming how to pare a little closer anywhere! I believe firmly that not the poor beggar on London street or country highway, suffers such anxiety and misery about the procuring of the means of subsistence, as do many most reputable folk, maintaining a highly respectable appearance before the world. But yearly the poor head is getting under water; the strength to work and to bear is being sapped; and the ceaseless dread of impending misfortune takes possession.

"'Is your mind at ease?' 'No, it is not.' Of course you know the story of poor Goldsmith's last hours. It was the want of money that killed that delightful writer at the age of forty-five. He did not see how to pay his debts, or how he was to live. There was little spring left in his constitution; and so he could not stand an illness which a hopeful heart would have made little of. Let us listen to Mr. Forster:

"'A week passed, the symptoms so fluctuating in the course of it, and the evidence of active disease so evidently declining, that even sanguine expectations of recovery would appear to have been at one time entertained. But Goldsmith could not sleep. His reason seemed clear; what he said was always perfectly sensible; he was even at times cheerful; but sleep had deserted him; his appetite was gone, and it became obvious, in the state of weakness to which he had been reduced, that want of sleep might in itself be fatal. It then occurred to Dr. T. Foston to put a very pregnant question to his patient. "Your pulse," he said, 'is in greater disorder than it should be, from the degree of fever which you have. *Is your mind at ease?*" "No, it is not," was Goldsmith's melancholy answer. They are the last words we are to hear him utter in this world. The end arrived suddenly and unexpectedly.'

"I remember well how a physician told me of a poor fellow, an unbeneficed preacher, who came to consult him about some illness he had. Suitable remedies were prescribed. and it did not seem that much was the matter,

Yet the poor man did not get better. In fact, he was living in a little lodging he could not pay; he had not a friend in the world who could help him; all his hopes in life were blighted, and all the doctors in Britain, and all the medicines in the Pharmacopæia, could make nothing of such a case. But the physician was wealthy as well as kind, and he devised means not medical, which, with wonderful speed, restored that poor fellow to health and hope.

"Do you remember how it is recorded of Thackeray, that in one of his latest visits to Paris, a friend called for him, and found him putting some sovereigns into a pill box, on which he wrote, '*Dr. Thackeray's* prescription: one to be taken occasionally.' And on the friend asking the meaning of this, the kind-hearted great man replied that he had a poor friend in a drooping state, who could not mend by all means tried, and that he thought he had hit upon the right medicinal gum. Let us trust Dr. Thackeray's prescription proved most effectual. Of one thing we may be quite sure; to wit, that the treatment of that poor patient did great good to the Doctor

himself. And he has gone where it will not be forgotten.

"Then it is not merely that the want of money may make people miserable; it may make them bad. No doubt Becky Sharpe thought quite rightly when she thought she could have been very good if she had had five thousand a year. Trouble and sorrow often do human beings great good, but not when they come in the shape of the want of money. A poor, anxious, middle-aged father of a family, if he go on for three or four years with the dread or the reality of debt lying like a dull weight on his heart, and ever watching to save the occasional sixpence, screwing himself in the matter of clothes, never buying a book, walking long distances because he cannot afford to ride, toiling on when the doctor has told him he must definitely give up all work for a time, will not merely come to have wretched sleepless nights and horrible dreams, likewise occasional attacks of that dreadful pressure on the brain which, unchecked, means apoplexy or insanity, and the ever-growing irritability of the nervous system which points to paralysis or

angina pectoris. Worse things will come. His whole moral nature will be deteriorated. He will grow fractious and ill-tempered, soured and envious; he will say bitter and malicious things; he will come to hate those who are better off than himself. Let the present writer (who is indeed a Doctor, though not of medicine) offer a prescription suitable to that perilous time. At such a time it is good to try to help or comfort somebody. This may be done without giving that money which you have not got. Let me tell you a story which I never forget, which was told me, long ago, by a dear and wise friend. On a certain morning, as he was on his way walking to a place several miles off, he met the postman, and from that terrible unconscious arbiter of destiny he received a certain letter. With a shaky hand he opened it, when the postman had departed, and therein read certain tidings, briefly told, which (as he fancied) utterly blighted his hopes for this life. Such fancies are commonly wrong, and in his case the fancy proved signally so. Having put the letter in his pocket, he went away up a lonely hill all by himself, pursuing his intended path.

The ground felt indistinct under his feet, and all sounds strange to his whirling brain. But in a very solitary spot on the bosom of the hill he heard a curious noise, and turning aside to see, he found a poor sheep lying on its back, frantically struggling. It had got its fleece entangled in some long rough sprays of bramble, these had got twisted round it; and after each new struggle it sank into a state of exhaustion that showed death was not far off if relief did not come fast. My friend was roused from his gloomy stupor. 'Here,' said he, 'is a creature as miserable as myself.' With a clasp knife he speedily set the sheep at liberty. The poor sheep got on its feet, and its life was saved. My friend told me his heart was a good deal lightened by this little opportunity of helping a fellow-creature. And from that day, whether owing to the sheep or not he could not say, his affairs revived; his fortunes looked up; he became a very prosperous and successful man."

"*Lessons of Middle Age.*" *By the Author of* "*The Recreations of a Country Parson.*" (*A. K. H. B.*)

FINIS.

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